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THE
COMPETITIVE GEOGRAPHY.

BY
R. JOHNSTON,
AUTHOR OF THE CIVIL SERVICE ARITHMETIC, ETC.



LONDON:
LONGMANS, GREEN, AND CO.
1872.

201. g. 113.

PREFACE.

ERRATA.

Page	Line	For	read	For	read
15	12	For "of two parts,"	read—"of three parts."		
19	32	" "meridional,"	" "meridional "		
47	29	" "are found,"	" "are formed."		
65	5	" "Switzerland,"	" "Baden."		
66	35	" "Elbouf,"	" "Elbeuf."		
119	4	" "Ruthen,"	" "Ruthin."		
126	39	" "Stafford,"	" "Worcester."		
137	18	" "Dover,"	" "Dover.*"		
148	27	" "30,000,"	" "3,000,000."		
161	11 & 12	" "Kilmanock and Arbroth,"	read "Kilmarnock and Arbroath."		
166	35	" "William,"	" "George."		
209	3	" "Cooper'o,"	" "Cooper's."		
212	39	" "was once,"	" "is now."		
225	16	" "England,"	" "England is."		
235	11. 30, 35	" "....."	" "in," "is at," "runs."		
245	1	" "may,"	" "may be."		
267	8	" "Vincenza,"	" "Vincenza."		
286	12, 31	" "Danube and Spalato,"	read "Drave and Spalatro."		
296	35	" "Meisse,"	read—"Meissen."		
308	35	" "Feakke,"	" "Flakkee."		
312	24	" "Faaland,"	" "Laaland."		
316	20	" "....."	" "in some places."		
318	27	" "....."	" "empire, until lately the."		
323	35	" "eight,"	" "seven."		

cial towns, and most important industrial seats of every country in the world.

The forbearance of my readers is requested with respect to any slight inaccuracies which may, notwithstanding all efforts to exclude them,



PREFACE.

THIS treatise is intended to suit the requirements of advanced classes in schools, and of Candidates who present themselves at the Competitive Examinations held periodically for entrance into the Army and Civil Service. A prominent feature of the plan adopted has been to give, after a short descriptive introduction, a general view of each country by means of a statistical table of its provinces, including their areas, populations, and chief towns. Ample descriptions have also been given of the provinces, great commercial towns, and most important industrial seats of every country in the world.

The forbearance of my readers is requested with respect to any slight inaccuracies which may, notwithstanding all efforts to exclude them,

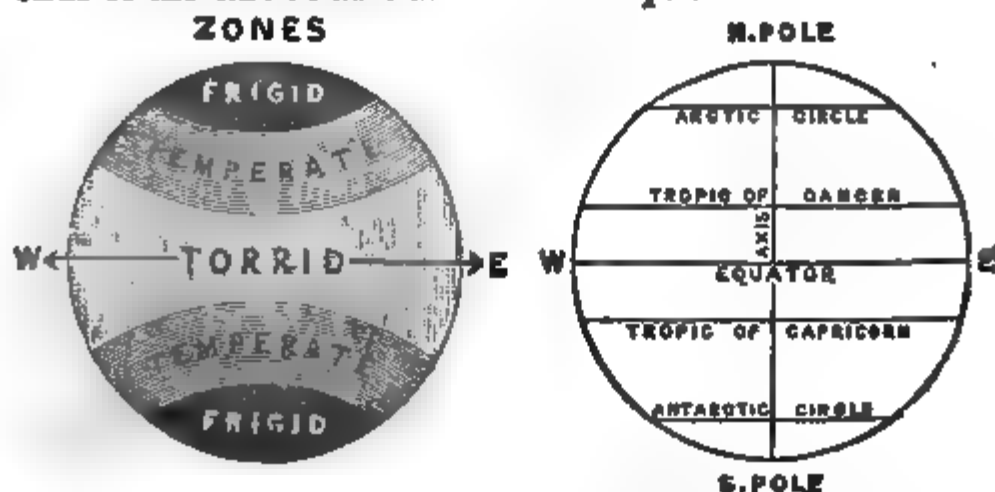
be found in this work ; as in consequence of the vast amount of matter it contains, the number of authorities consulted in its compilation, and the variable nature of the statistics connected with the subject, perfect accuracy is hardly possible in a first edition.

10th April, 1872.

INTRODUCTION.

GEOGRAPHY is a description of the surface of the earth. It is usually considered under three heads:—**Mathematical Geography**, which treats of the form, motions, and size of the earth, considered as a planet; **Physical Geography**, which treats of the natural features of the earth's surface: its mountains, plains, rivers, and lakes with their various peculiarities: its atmosphere, climates, and natural productions: and **Political Geography**, which treats of the earth divided into political governments, as kingdoms, empires and republics, with an account of the moral, political, and social condition of their inhabitants.

The *axis* of the earth is an imaginary line passing through its centre from north to south. The extreme points or ends of the earth's axis are called the *poles*.



Round the middle of the earth, midway between the ends of the axis, is the circle called the *equator*. From the equator the stars of both hemispheres are visible. Smaller circles are drawn round the globe parallel to the equator to indicate the distance of the places through which they pass from that circle.

A circle drawn through any place on the earth's surface

at right angles to the equator, is called the *meridian* of that place. Its distance is reckoned from the *first* meridian, which is supposed to pass through Greenwich. As Greenwich is east of Dublin, and the earth rotates from west to east, it is mid-day in Greenwich about half-an-hour before it is mid-day in Dublin.

In the map of the world consisting of two hemispheres, the meridian circles of 20° W., and 160° E., are made the separation between the New and Old World hemispheres.

It is evident the greatest latitude any place can have is 90° , which is the distance of the poles from the equator just mentioned, and the greatest longitude is 180° ; that at the point the first meridian cuts the equator, there exists neither latitude nor longitude. On glancing at a map of the world, it will be seen that latitude is marked on the sides or circumferences of the hemispheres above and below the equator, that longitude is marked on the equator; but on maps of particular countries, latitude is marked on the sides.

The *sensible horizon* is the line which bounds our view by the apparent meeting of the earth and sky.

The *rational horizon* is a similar circle of vision, could we see half the globe and, consequently, half the heavens.

The point in the sky directly over the head of an observer is called his *Zenith*, the opposite point the *Nadir*.

The sun's rays extend 90° all round the place over which he is *vertical*. The line between light and darkness is a *great circle*,* called the *circle of illumination*. It divides the illuminated half of the earth from the half in darkness. One half of the globe is always in light, the other in the shade.

The sun is never vertical at any place north of $23\frac{1}{2}^{\circ}$. The parallel over which he is vertical on the 21st June is called the *tropic of Cancer*.

The sun is never vertical further south than $23\frac{1}{2}^{\circ}$. The parallel over which he is vertical on the 21st December is called the *tropic of Capricorn*.

* A *great circle* divides the earth into two equal parts.

These tropics are marked on maps as dotted circles to distinguish them from other parallels.

The part of the earth between these two circles is the *Torrid* zone, so called on account of the excessive heat that prevails there.

The parallels at $23\frac{1}{2}^{\circ}$ from the N. and S. poles respectively are called the *Polar Circles*.

The parts of the earth between the tropics and the polar circles are the *Temperate* zones, north and south, with a moderate climate; and the parts within the polar circles and round the poles, north and south, are the *Frigid* zones, where the most intense cold prevails.

The *Ecliptic* on the earth is a great circle which represents the sun's path of "*verticality*" during the year.

Form.—The earth is nearly globular. It is flattened a little at the top and bottom, and bulged about the equator. The length of the shorter diameter, which is its axis, is 7899 miles, and the length of the equatorial diameter is 7925 miles; the difference between these two diameters, viz., 26 miles, is called the earth's compression.

That the earth is round like a sphere or globe, has been proved beyond dispute, although when we look around on any part of its surface it appears to be flat, and to meet the sky at some distance from the place on which we stand. Perhaps the best and most convincing proof of the rotundity of the earth is derived from the well-known fact that persons have frequently sailed round it. In addition, the following proofs of its sphericity are usually given:—

1. The sun rises earlier to people living to the east of us. If the earth were flat this could not be the case. In Great Britain sunrise is *one* minute earlier for every *ten miles* we travel eastward; the earth is therefore round in these two directions.

2. The pole star is on the horizon to people at the equator and rises higher and higher as we proceed towards the north; this could not be if it were viewed from an extended plane; therefore the earth is also round from north to south.

3. During eclipses, the earth's shadow has always a circular edge, although revolving round its axis ; this constantly circular shadow must be produced by a spherical body.

4. Lower parts of ships at sea, and the bases of mountains on land, first disappearing from view, show that a *convexity* of surface comes between us and the objects seen in every direction.

5. The horizon at sea is perfectly round, and on land of the same shape, allowing for inequalities of surface, and for objects intercepting the view.

The earth curves about 8 inches in a mile ; and this curvature increases with the square of the distance.

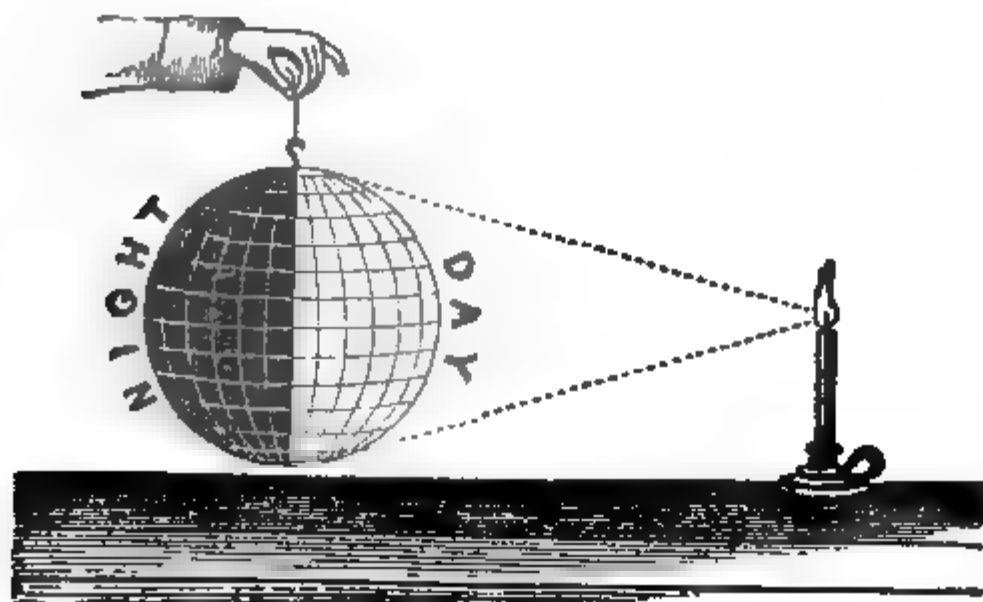
To find the curvature for any distance : reduce the distance to miles, square the result, and multiply by 8, and we get the curvature in inches. On the contrary, to find the distance visible from a given height, we reduce the height to inches, divide by 8, extract the square root of the quotient for the answer in miles.

As to the cause of the earth's sphericity it is only necessary to say, that at first the earth was supposed to be a molten mass, and the force of gravitation, acting on its particles, caused them to assume the globular form. This molten mass, revolving on its axis, would soon bulge out at the equator, as the particles at that part would move more rapidly (in consequence of the earth turning on its axis) than the particles on any other part of the earth's surface, and therefore the tangential force acting on them would be greater.

Motions.—The sun, moon, and other heavenly bodies appear to move daily from east to west ; this appearance is caused by the earth's motion in a contrary direction, west to east. The earth has two motions, diurnal and annual.

The diurnal motion is the turning of the earth on its axis from west to east, in nearly 24 hours. This motion is the cause of day and night. The half of the earth on which the sun is shining has day, the other half night ; and, as the earth makes a complete revolution on its axis in 24 hours,

day and night, taken together, form the same period of time.



The simplest proof of this motion is that given by Mons. Foucault, founded on pendulum experiments made by him in 1851.

The following is another proof of the earth's rotation: if a stone were let fall from the top of a tower to the ground, and if the earth really had a rotation from west to east, the stone should fall somewhat to the east of the foot of the plumb-line, because the top of the tower would have a greater velocity of rotation than the bottom. Experiments of this kind have demonstrated the earth's rotation.

The annual motion of the earth is its revolution round the sun in a period of about $365\frac{1}{4}$ days. The *direct* proof of this motion of the earth in space depends on the fact that light requires a certain interval of time to pass from one point of space to another, combined with the observation of the phenomenon known to astronomers by the term, Aberration of the Fixed Stars. The velocity of light has been determined by experiment; and it can be easily shown that, velocity of earth = velocity of light \times tangent of aberration. The cause of this motion is the force of gravitation exerted by the sun, which would draw the earth to the sun, and the tangential force acquired by the earth moving in its orbit, which tends to cause it to fly off in a straight line. As these two forces are *continually* acting on the earth, the

result is, that it acts as a ball would under similar circumstances, and describes a curve. The orbit of the earth is not circular, but elliptical; the sun being in one of the foci. That part of the orbit nearest the sun is called perihelion, and the part most remote from the sun, aphelion. The earth is in aphelion when it is summer in the northern hemisphere.

The difference of the distance of the earth from the sun when in aphelion and perihelion is called the eccentricity of the earth's orbit; or, correctly speaking, the eccentricity of the earth's orbit is the ratio which the distance of the centre of its orbit from the sun bears to the mean distance or semi-axis major. The mean distance of the earth from the sun is 91,350,000 miles, and the eccentricity about 3,000,000 miles; but this latter quantity, as well as the season when aphelion occurs, changes slowly during a long cycle of years.

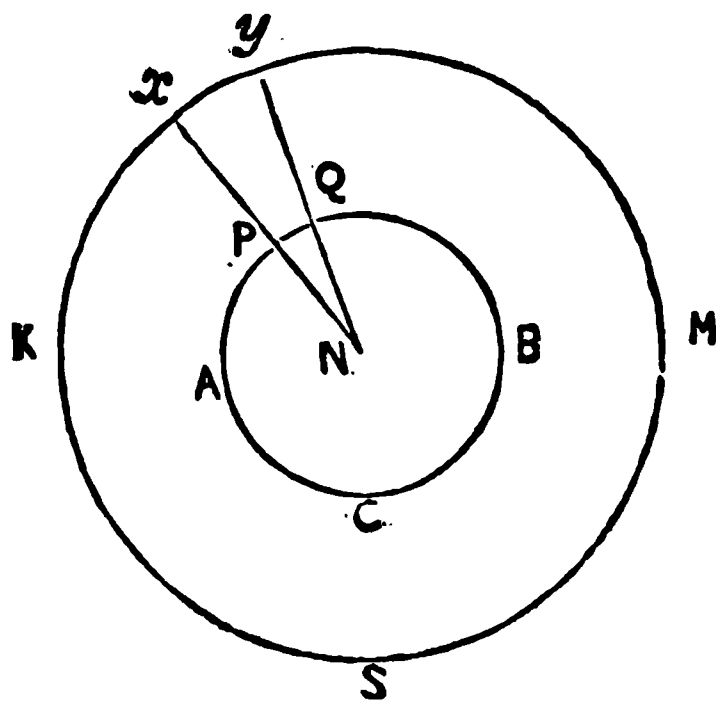
The Seasons.—The cause of the seasons is three-fold—1st, the earth's annual motion; 2nd, the earth's axis makes with the plane of the orbit an angle of $66\frac{1}{2}^{\circ}$; and 3rd, the axis always points to the same point in the heavens. If we take a small globe and incline its axis so as to make an angle of $66\frac{1}{2}^{\circ}$ and then carry it round a candle, taking care that its *axis in every two positions is parallel*, the cause of the seasons will be evident.

In one position, we would observe the sun vertical to a circle drawn $23\frac{1}{2}^{\circ}$ N. of the equator. In this position, the rays of the sun reach $23\frac{1}{2}^{\circ}$ beyond the N. pole, while his rays do not reach within $23\frac{1}{2}^{\circ}$ of the S. pole. The sun is vertical to the tropic of Cancer on the 21st June. In the opposite part of the orbit it will be seen that the sun will be vertical $23\frac{1}{2}^{\circ}$ S. of the equator, that is, over the tropic of Capricorn. In this position the sun's rays extend $23\frac{1}{2}^{\circ}$ beyond the S. pole, and fall short of the N. pole by the same distance. The sun is vertical to the tropic of Capricorn on the 22nd December. In two points of the orbit, intermediate between the two we have mentioned, it will be observed that the axis is neither inclined to, or declined from the *sun* (though, of course, it is still inclined to the *plane of the orbit*), and in

these two positions the sun is vertical to the equator. In these cases the sun's rays extend from pole to pole, and the days and nights are equal, which happens on the 20th March and 23rd September in every year.

Magnitude.—The circumference of the earth is 24,856 miles. By dividing this by 3.1416 we get the diameter to be 7,912 miles.* The area of the earth's surface is about 197,000,000 square miles, and its solid content, about 256,000 millions of cubic miles. All these numbers can be easily found if we once know the length of a degree on the earth's surface; for, knowing this, if we multiply it by 360 we get the circumference, from which we can find all the others. The length of a degree on the earth's surface is found as follows:—

Let A B C represent the earth, and K S M the heavens. All circles are divided into 360 equal parts or degrees.



* The unit of measurement on the surface of the globe is a degree, which is 60 geographical or $69\frac{1}{10}$ British miles very nearly. The circumference of the earth, that is a line passing completely round it, like the circumference of every circle, is divided into 360 degrees, and each of these is subdivided into 60 equal parts called minutes, and these again into 60 equal parts called seconds. It is usual to write degrees, minutes, seconds in the following manner: for 23 degrees, 23 minutes, and 35 seconds, we write 23° , $23'$, $35''$. Now, the half of the earth's circumference is one-half 360°, that is 180°, and the quarter (often called a quadrant) is 90°, which, as is evident, is the

Let N be the centre of both circles, and let $P Q$ denote a degree on the earth, then, by producing $N P$ and $N Q$ to the outer circle, $x y$ will be a degree on the heavens. It is, therefore, plain, that by walking a degree on the earth's surface, a line drawn from us to the sky would describe a degree on the heavens; and conversely, if this line described a degree on the heavens, we must have walked a degree on the earth's surface. Now, if we take the height of a fixed star, and walk due north or south until we find, by again taking its height, that it is one degree higher or lower, it is evident we have a degree on the earth's surface. By measuring from the place we started to where we stopped, making allowances for elevation and depression, we shall have the length of a degree. This has been done in many places, and the length of a degree ascertained to be about $69\frac{1}{10}$ miles.

Owing to the earth's being an oblate spheroid, a degree of latitude, or the 360th part of a meridian, is a little longer towards the poles than at the equator. The length of a degree of longitude, or the 360th part of a parallel, depends, of course, on the length of the parallel; and as these circles become smaller as one goes from the equator to the poles, the degrees of longitude must all get smaller and smaller in the same direction.

POSITION OF PLACES ON THE EARTH'S SURFACE.

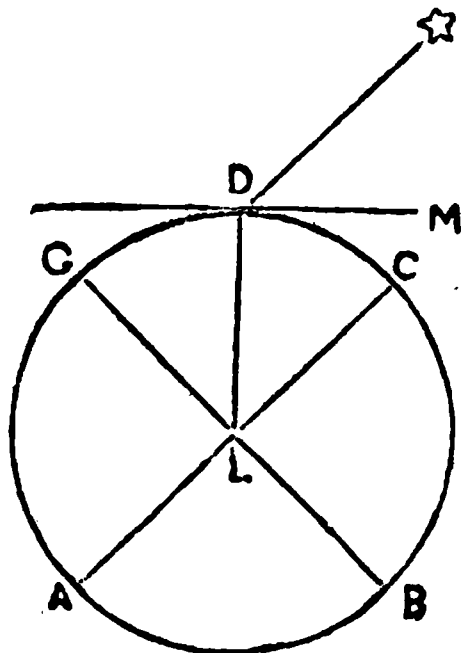
In order to give the exact position of places on the globe, geographers have introduced, as already stated, the terms latitude and longitude.* It is evident that if we say a place lies

distance from the equator to either pole. As we know the exact number of miles in a degree, which has been found by actual measurement, we can easily determine the number of miles in the earth's circumference, by multiplying 360 by $69\frac{1}{10}$, and having performed this simple operation in figures, we obtain 24,876 miles or 25,000 miles very nearly. The diameter of the earth, that is, a line drawn through its centre from any point in the circumference to a point directly opposite, can now be easily found; for we know that every diameter bears the ratio to every circumference given above.

* Supposing the earth to be a perfect sphere, the latitude of a place is the angle subtended at the centre by the arc of the meridian, intercepted between that place and the equator.

30 miles due W. of London, and 20 miles due N. of Portsmouth, it will be found by finding the point at which two lines drawn in the direction indicated from the places named, cut each other. In the same manner if we are told a place is about $53\frac{1}{2}^{\circ}$ N. latitude, and $6\frac{1}{2}^{\circ}$ W. longitude, we look at the side of a map, and find the parallel of $53\frac{1}{2}^{\circ}$ as near as we can calculate from 50° , the parallel usually given, and the meridian of $6\frac{1}{2}^{\circ}$ W.† Though latitude and longitude are found by astronomical observation, it may be well to refer to the most common methods by which they are determined. We shall give two methods of determining latitude.

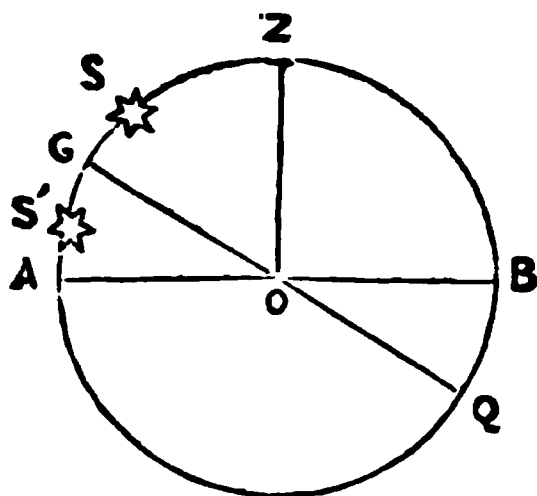
1st. The latitude of a place on the earth's surface is equal to the altitude of the polar star at that place.



Let A B C represent the earth, and * be the polar star ; let D be the place of observation. Then a tangent passing through D will be the horizon, and * D M will be the altitude of the polar star. Let A C be the earth's axis, G B perpendicular to the axis will be the equator, and G L D will be the latitude. Now, as all lines drawn from points on the earth's surface to the polar star are considered parallel, owing to its immense distance, * D is parallel to A C, and consequently * D L is equal to A L D (Euclid I. 29), but M D L and A L G are equal, being right angles. Taking these away, there will remain * D M, equal to G L D, that is, the height of the polar star above the horizon is equal to the latitude of the place.

† Dublin, of course, is the place referred to.

2nd. If we take the meridian altitude of the sun, and subtract it from 90° , and then add his declination if he be north of the equator, or subtract it if he be south, we shall have the latitude.



Let O be the position of a spectator, which we may conceive to be in the centre of the heavens, A B his horizon, Z his zenith, G Q the equator, and S the position of the sun at 12 o'clock, when his altitude is taken ; then A S will be the meridian altitude ; and it is plain that if A S be taken from A Z, which is 90° , we get S Z, or the zenith distance. If we add to this G S, which is the declination, and in this case it is north, we shall obtain G Z. By referring to diagram, p. 7, it will be evident that G Z on the heavens would correspond in degrees to the distance of the spectator from the equator on the earth, which is his latitude. If the sun were south of the equator as at S', the meridian latitude would be A S, and this taken from 90° would give S' Z as before, but we should subtract G S' as the declination from this to obtain G Z or the latitude.

Of course having found our latitude, we merely know whether we are N. or S. of the equator, and how far N. or S. As the earth moves round or revolves on its axis before the sun with a uniform velocity in a period of 24 hours, (a) and as the earth is a sphere, one half of it will be exposed to the sun's rays, and the other deprived of them in regular succession ; that is 360° , being its entire circumference, it

(a) More accurately 23 hours 56 minutes.

will move in one hour the twenty-fourth part of 360 or 15 degrees.

The sun appears to rise in the east in consequence of the rotation of the earth in the opposite direction, and, consequently, places towards the east will be the first exposed to his rays, and in the proportion of one hour to every 15° , the time at such places being in advance of that at places towards the west. Time is earlier to the E., later to the W. Longitude is only counted half round the globe, and hence 180° or half 360° is the greatest possible longitude. When the sun is on the meridian of any place or at his greatest altitude, it is twelve o'clock, noon, at that place.

To determine longitude, we must have meridian time and local time. There are three methods of determining first meridian or Greenwich time.

1st. By a chronometer, set to Greenwich time at starting, and referring to it.

In this country we reckon longitude* from the Greenwich observatory; in France and most other countries they reckon from their own principal observatory. If a person should find at sea it is twelve o'clock when his chronometer, which indicates London time, is only ten o'clock, it is evident that London time is later than the time of the place in which he finds himself, by two hours. Consequently he is $2 \times 15^{\circ} = 30^{\circ}$ to the E. of London. On the contrary, if his chronometer indicate three o'clock in the afternoon, when the sun is over his meridian, it is plain his position is now $3 \times 15^{\circ} = 45^{\circ}$, west longitude. In this case every four minutes difference in time represents 1'

* The question of finding the exact longitude at sea being so important, the British legislature, in 1714, advanced £2,000 for the purpose of making experiments; and offered rewards to the amount of £20,000 in case of perfect accuracy being secured. Mr. John Harrison, by greatly improving the construction of chronometers, which he succeeded in making keep correct time for ten years, gained the reward in 1761. Several others have succeeded in constructing chronometers of equal excellence, amongst whom may be named Mr. Dent, perhaps the most successful.

difference in longitude, for $60' + 15 = 4'$. If chronometers kept *exact time* in all seas, in all climates, and under all circumstances, this mode of finding the longitude would be quite sufficient. This, however, notwithstanding the vast improvements above referred to, can hardly be expected.

2nd. Take the angular distance of the moon from one of the conspicuous stars near her, find the distance in the nautical almanac, and opposite to it will be found Greenwich time. This is the lunar method.

3rd. Observe the eclipse of one of Jupiter's satellites, and then refer to a nautical almanac which gives the time when this eclipse occurs to a spectator at Greenwich. This will be Greenwich time.

The methods of finding local time are not suited for these pages.

Knowing Greenwich time and local time, we find our longitude as follows :—

As 1 hour : difference of these times :: 15° : longitude. Because, as the earth turns round 360° in 24 hours, it will rotate 15° in one hour.* If the local time be earlier than Greenwich, the longitude is east ; if later, the longitude is west. When we know our latitude and longitude, we can find our position on the earth ; for we merely have to trace the meridian of the given longitude until it cuts the parallel of the given latitude, and where they intersect, is the required place. Pupils are sometimes required to work questions under the following two problems :—

(1.) Given the longitude of two places, and the time in one place, to determine the time in the other ?

As 15° : the sum of the longitudes of the places, if the longitude be of different kinds, or to their difference, if of the same kind :: 1 hour : the difference of time. Then if the time of the more eastern place be given, subtract this difference from it ; if the time of the more western, add it.

(2.) Given the time of two places and the longitude of one, to find the longitude of the other ?

As 1 hour : the differences of the times :: 15° : to differ-

ence of longitude. Then if the longitude of the more eastern place be given subtract this difference, otherwise add it.

We can generally find the distance between two places on a map by taking the distance between them and applying it to the scale of the map. If no scale be on the map, then bring this distance to the equator if it be a map of the world, or to the *side* of the map if it be of a particular country, by which means we can find the number of degrees of a great circle between them, and we can reduce these degrees to miles, by multiplying by $69\frac{1}{10}$. If two places be on the same meridian, we can tell their distance in degrees, by adding their latitudes if of different kinds, or subtracting their latitudes if of the same kind. As these are degrees of a great circle on the earth, they can be changed into miles by multiplying by $69\frac{1}{10}$. If the places be on the same parallel, the distance between them in degrees is found by adding their longitudes if of different kinds, or subtracting their longitudes if of the same kind. But as these are degrees of a small circle, they can only be reduced to miles by multiplying by the length of a degree of longitude on that particular parallel of latitude, as found from such a table as the following :—

LENGTH OF A DEGREE OF LONGITUDE.

LATITUDE.	MILES.	LATITUDE.	MILES.
0	$69\frac{1}{10}$	50	44
5	$68\frac{3}{4}$	55	$39\frac{1}{2}$
10	68	60	$34\frac{1}{2}$
15	$66\frac{1}{2}$	65	29
20	65	70	$23\frac{1}{2}$
25	$62\frac{1}{2}$	75	18
30	60	80	12
35	$56\frac{1}{2}$	85	6
40	53	90	0
45	$48\frac{3}{4}$		

PHYSICAL GEOGRAPHY.

Physical Geography treats of the *natural* appearance of the earth's surface,* and the *phenomena* of air, water, and land. It is not in its province, as already mentioned, to trace empirical divisions made by man, but the natural conditions of our globe as imprinted by the Creator's hands, and the immutable laws which govern it for our benefit, and the supply of our material wants.

Physical Geography treats of the configurations of the great masses of land called continents, and their distributions in both hemispheres ; the directions of the mountain chains and of the great rivers ; the ocean with its currents and tides ; the atmosphere with its clouds, winds, and electricity ; the distribution on the surface of the earth of plants, animals, and man. Geology is connected with this science.

DEFINITIONS, ETC.

A *continent* is a large extent of land containing many other divisions.

An *island* is a tract of land entirely surrounded by water. An *islet* is a very small island usually uninhabited.

A *peninsula* † is a portion of land surrounded on all sides by water except at one narrow neck generally called an *isthmus*, with which it is connected to a continent.

A *cape* is a portion of land jutting out into the sea ; when very small it is called a *point* ; when elevated or mountainous it is called a *promontory*. ‡

An elevation or protuberance on the earth at least 1,000

* Geology treats of the various substances which compose the earth, and the changes which it has undergone.

† Also called Chersonese.

‡ Various names are applied to headlands according to the shape they assume : some are called *bills* ; as Portland bill, Selsey bill, on the south coast of England ; some are called *mulls* in Scotland, as the Mull of Cantyre. The term *ness* is also very commonly applied to headlands : evidently another form of *nose*, which we have in the *naze* S. of Norway, the *naze* of Essex, &c.

feet above sea-level is called a *mountain* ; * smaller elevations are called *hills*.

A *plain* is a flat or level district of considerable extent.†

A *table-land* is an elevated plain with steep acclivities on every side.

A plain is called a *valley* when it lies between two hills or mountains, and a small valley is often called a *vale*.

Steppes are extensive plains very much the nature of deserts (sterile and barren), in south Russia, bordering on the Caspian Sea.

The surface of the earth consists of land and water, in the proportion of two parts water to one part land ; and if we compare the north of the equator with the south of it, the proportion of land is as three to one.

An *ocean* is the name given to the largest bodies of salt water.

A *sea* is smaller than an ocean, and usually confined or bounded by land. In fact, it is often a branch of an ocean, having a particular name.

An *archipelago* is the name applied to a sea studded with islands.

A *gulf* is a large portion of the sea running some distance into the land.

A *bay* has a wider opening than a gulf, and does not penetrate so deeply into the land, but is usually navigable.

A *creek* is a very small bay or inlet.

A *firth*, *frith*, or *estuary*,‡ is the widening of a river into the sea.

* A *volcano* is a burning mountain which throws up lava, smoke, and other matter.

† In America five kinds of plains are distinguished : *Savannahs* which are extensive grassy plains or meadows in the southern states of North America ; *Prairies* are similar plains destitute of trees, found in the western states ; *Llanos* are extensive plains in South America on the banks of the Orinoco ; and *Pampas* are flats or plains in the basin of the La Plata ; *Silvas*, as the word indicates, are forest plains on the banks of the Amazon.

‡ Called in Norway a " fiord."

A *channel* connects two greater bodies of water, and is not so wide as to be called a sea.

A *strait* is usually narrower than a channel, and connects two larger bodies of water.

A *sound* is a shallow strait, usually separating an island from the mainland.

A *lake* is a portion of water entirely surrounded by land.*

A *lagoon* is a kind of brackish lake, usually found in tropical latitudes.

A *river* is a stream of fresh water, rising inland and flowing into a lake or sea. When one river flows into another it is called an *affluent* or *tributary*. A *confluent* is a river joining another, after flowing some considerable distance in the same direction with that other. When a river flows through a rugged and hilly district of country, *cascades*, *cata-racts*, and *rapids* are formed.

A *basin* includes the whole tract of country drained by a river, and all its tributaries.

A *watershed* is an elevated region in which rivers flowing in different directions have their sources.

A *delta*, so called from its triangular shape, resembling one of the letters in the Greek alphabet, is formed by the bifurcating mouths of rivers.

A *canal* is a kind of artificial river, made perfectly level for the transit of goods

A *railway* or *railroad* is a road or way on which iron rails are placed, in order to facilitate the motion of wheeled carriages.

The surface of the world is computed at 197 millions of square miles, of which only 52 millions are land, the remainder (nearly three fourths) being water.

Considering the earth in two hemispheres as separated by the equator, there is nearly three times as much land in the northern as in the southern hemisphere. This circumstance has an influence upon temperature at a certain distance north and south of the equinoctial

* In Scotland it is often called a loch, in Ireland a lough, and in England a mere.

line. In the world, as divided into the usual eastern and western hemispheres, the proportion of land is as $2\frac{1}{2}$ in the former to 1 in the latter.

In the different zones, the distribution of land and water is very nearly as follows:—In the torrid zone one-third is land; in the north temperate zone, one-half; in the south temperate zone, one-tenth (it may be called a zone of water); in the north frigid zone, one-third. The south frigid zone may be regarded for the present as all water.*

The land bears the greatest ratio to the water in the north temperate zone; and we may suppose, from the fact of all the great nations of ancient and modern times being here located, that the climate is in some way favourable to the full development of the human race politically and socially.

By taking London as a centre, and dividing the globe into two hemispheres, we find nearly all the land in that with London as centre, while the other is almost entirely a hemisphere of water.

THE MAP OF THE WORLD.

On standing before the map of the world we see it is divided into two large circles, each containing one-half the globe. The map is drawn in this form to enable us to see the whole world at one view; for of a globe, which is the truest representation of the earth, we can only see one-half at one view. The circle on the right includes what is called the eastern hemisphere, or Old World, which is divided into four great continents, Europe, Asia, Africa, and Australia, with the oceans by which they are surrounded.

It stretches from Cape Severo, in N. lat. 78° , to Cape Agulhas, S. lat. 35° . Its most western point is Cape Verd, $17\frac{1}{2}^{\circ}$ W. long., its most eastern East Cape, 170° W. long. (corresponding to 190° E. long.) Its area is 33 millions of square miles. To the south-east is found the large island of Australia, with other extensive islands in its vicinity.

The Old World is naturally divided into two parts by the Mediterranean and Red Seas; the connection being the Isthmus of Suez (now cut through by a ship canal—the result of the genius and perseverance of a Frenchman).

* The *supposed* existence of a southern continent modifies this computation.

The circle on the left, called the western hemisphere, includes the continent of America, with the oceans by which it is surrounded.

The western continent, or New World, extends from Barrow's Straits, 74° N. lat., to Cape Froward, in the Straits of Magellan, 54° S. lat. ; and from Cape Branco, in Brazil, $34^{\circ} 40'$ W. long., to Cape Prince of Wales, 168° W. long. Its length is upwards of 10,000 miles, and breadth 3,200. Area, 16 millions of square miles.

The New World is divided into two portions by the Isthmus of Panama (crossed by a railway from Aspinwall to Panama). Thus the obstacles to the intercourse with the East presented by these two peninsulas—Africa and South America—have been in a great measure overcome.

The whole extent of land may be taken at fifty-two millions of square miles.* Europe contains three millions eight hundred thousand, or a little less than one-thirteenth of the whole ; Asia sixteen millions six hundred thousand, or very nearly one-third of the whole ; Africa twelve millions, or a little less than one-fourth of the whole ; Australia and the adjacent islands four and a quarter millions, or one twelfth of the whole ; and America sixteen millions, or nearly one-third of the whole.

We perceive from the map that the form of the land differs in the two continents. In the Old World, or eastern continent, the extension is chiefly from east to west, while in the western it is from north to south. Their chief mountain chains follow the general direction. The dry or rainless portion extends like a zone from the west coast of Africa nearly to the eastern side of Asia.

* A square mile is here taken as the standard of measurement. It is a square, whose side is a mile in length; and as a mile is 320 poles, a square mile is $320 \times 320 = 102,400$ square poles. Now an acre being $= 160$ square poles, the number of acres in a square mile is $= 102,400 \div 160 = 6,400$. Having the area of any country we can easily find the number of acres in it, by multiplying the area in square miles by 640.

All the great divisions of the world differ from one another in many important particulars. **Europe**, the smallest, is more broken up, and more deeply indented with a longer coast line than the others, which, to a great extent, accounts for its less rigorous climate in winter, and less oppressive heat in the summer. Its inhabitants being more intelligent, more energetic, and better educated than those of the other divisions, are gradually spreading, either by colonization or conquest, over the rest of the globe. Europe, possessing regular and stable governments, is less subject to revolution and civil war than other regions. With an abundance of the more useful minerals, coal and iron, it has very little of the precious metals, gold and silver. Its plants are not so exuberant nor so varied in foliage, nor has it such a variety of animal life as have the other great divisions of the earth.

Asia, with three peninsulas in the south, resembling the three of southern Europe, has the most opposite extremes of heat and cold, is possessed by a less energetic race, has the highest mountain, the most extensive plateau, the largest islands adjoining its coasts, and richer tropical productions than any of the other divisions. It resembles America in size, and, to a certain extent, in climate. It differs from Africa in its general outline, and is much better watered, with the exception of Arabia, which has a striking resemblance to the African continent. It possesses governments of the most diametrically opposite character, some parts of it still retaining the ancient patriarchal form, others the most absolute despotism ; while others, though absolute in form, are limited in the exercise of their governmental functions, either by the customs or traditions of the country.

Africa, with its sandy deserts and scorching heat, resembles South America only in general outline, and the fewness of the islands around its coast ; has few bays or openings of any kind, and still remains, to a great extent, unexplored. While South America is well watered and abounds in grassy plains, Africa has few large rivers : also their productions differ materially. Both continents project towards the east, and have a bending or indentation towards the west. The heated winds, which sweep over the great deserts of Africa, increase the temperature of southern Europe. It is the most backward division of the globe in civilization, and the least interesting as regards the progress of the human family. Notwithstanding the success of recent explorations, a great part of the interior of this continent remains an unknown region.

America, divided into two almost equal parts, differs in its general direction from all the other continents ; extending in the meridional direction of the N. and S. pole, it has every variety of climate, and most luxuriant productions. Its great mountain chains, instead of running parallel to the equator, like most of those of the old world, take a direction almost north and south. Young and energetic, its

immense republic is making rapid strides in modern science, and extending its influence far and wide. Unlike Europe, it has its islands and openings much more on the eastern than on its western side. It is strikingly the land of earthquakes and active volcanoes; and its mountains, rivers, lakes, and forests are all of colossal dimensions. Yet it has no desert properly so called.

Australia, an island a little smaller than Europe, is very compact, with only a few wide bays; rich in the precious metals, it is becoming very quickly inhabited by the immigrants, who flock thither in search of them. The peculiarities of its animals and vegetables are well known. It has very few rivers, most of its surplus waters being carried off by evaporation; in this particular, and also in that of its interior being little known, it resembles Africa.

The water on the surface of the globe consists also of five great divisions: the Pacific ocean, lying to the west of America and to the east of Asia and Australia; the Atlantic ocean, lying between America on the west and Europe and Africa on the east; the Indian, lying south of Asia, east of Africa, and west of Australia; the Arctic, surrounding the north pole; and the Antarctic, surrounding the south pole. The area of these five oceans is estimated at 145 millions of square miles. The **Pacific**, which covers more than half the globe, has an area of eighty millions of square miles, is 10,300 miles by 9,200, and was so named from the erroneous supposition that it was almost free from storms. It is quite open to the south, but almost closed to the north, where a narrow strait unites it with the Arctic Ocean. The **Atlantic** rolls in a great valley separating the two hemispheres, with a breadth of 3,600 miles at its widest part, and 800 miles at its narrowest (from Norway to Greenland), and an area of 25 millions of square miles. It is open at the south, but partially closed by islands towards the north.

The **Indian Ocean** is a little smaller than the Atlantic, and lies north of a line drawn from the Cape of Good Hope to the south of Tasmania.

The **Arctic Ocean** is round the north pole. It is much smaller than any of the others, nearly covered with ice, and almost shut in by the great continents. The **Antarctic**

Ocean is south of a line from the south of New Zealand to Cape Horn, thence to the Cape of Good Hope, by Tasmania to New Zealand.

Mountains.—In the great continent, a line of continuous mountains stretches from east to west; the highest ranges in a direction nearly parallel to the equator, and some chains of less height at right angles to them. In America the principal chains follow, in like manner, the general direction of the land, and run north and south.

A series of mountain systems extends from Behring's Strait, north-east of Asia, to the Strait of Gibraltar, south-west of Europe. Four chains in these run through Central Asia parallel to one another: the Altai, Thian Shan, Kuen Lung, and, most southerly, the stupendous range of the Himalaya, the highest in the world: these all seem to unite in the Hindoo Coosh, in Afghanistan. The range then extends to the Elburz Mountains, along by the Caspian Sea (south), and is continued through Persia, Armenia, Asia Minor, and then by the Caucasus to the Black Sea. This range may be regarded as continued in Europe by the Balkan, Eastern Alps, and Carpathian Mountains, which seem to pass into the mighty mountain system of the Alps, containing the most lofty summits in Europe. The next continuation is the Cevennes across France, stretching south-west to the Mediterranean. The valley of Languedoc here intercepts the prolongation to the Pyrenees, which, connected with the Spanish mountains, bring us to Cape Finisterre.

The correspondence between the direction of mountain ranges and the greatest length of the continents, is more remarkable in the New, than in the Old World. The great chain of America runs from the Straits of Magellan close by the west coast to the Makenzie River.

The shape of a country seems often to depend on, or follow, the direction of its mountain chains. Italy is a remarkable example; Scandinavia, as traversed by the Dofrefield Mountains; Madagascar, Cuba, and Jamaica, among islands, are also examples of this coincidence.

A striking feature in the scenery of mountains among

the more elevated peaks, is the vast surface of snow which everywhere meets the eye; and in the deep valleys the vast accumulations of ice which are found.

The outline of mountains is to some extent determined by the nature of the rocks composing them.

Volcanoes.—Of all the phenomena which mountains present, certainly the most remarkable are volcanoes, or burning mountains. Four of these are found in Europe: Vesuvius, Etna, Hekla, and Stromboli. Most volcanoes are situated near the sea, and some even under its waters, as is proved by islands and rocks rising in its bosom after earthquakes. The remains of several extinct volcanoes are found in many countries, particularly in France and Rhine Prussia.

Hills.—In a small district, elevations which in a continent would be termed hills, are called mountains. Another distinguishing feature between hills and mountains is that the former are usually isolated, whereas the latter occur in chains or groups, as already stated.

Plateaux.*—These include all table-lands or elevated plains, although many of them bear no resemblance to the *table-like* form.

The most remarkable table-land in the world is in central Asia, including Thibet (15,000 feet above sea level), and the desert of Cobi. The plateau of Mexico is elevated 7,000 feet, and that of Quito, in South America, still higher. The table-land of Spain is the most considerable in Europe, and exceeds 2,000 feet in height.

Plains or Lowlands.—In Russia an extended plain stretches from the Arctic Ocean to the Black and Caspian Seas. Crossing the Uralian Mountains we come to another plain of greater extent, sloping to the Arctic Ocean. The Great Desert of Africa is another plain, for the most part, of moving sand, on which rain never falls. North America contains vast *savannahs*, or plains, in the valley of the Mis-

* Professor Ansted, in his admirable treatise on Physical Geography, limits the term *plateau* to an elevation at least 600 feet in height.

Mississippi, to the east of the Rocky Mountains ; in other parts *prairies*, or natural meadows, alternating with forests. In South America the plains are called, towards the Orinoco, *llanos*; in the middle, where the Amazon rolls, they are called *silvas*, or forests ; and further south, *pampas*.

Geology.—An examination of the earth's crust, in railway cuttings, mines, and quarries, and in the banks of rivers and faces of cliffs by the sea-shore, shows us that it is formed of *beds* or *strata* of various rocks. Were it not for the upheaval of large portions of these strata in various parts of the world, our knowledge of the interior of the planet on which we live, would be scanty indeed. This crust is supposed to be about ten miles in thickness, whereas the deepest mine is little more than half a mile.

Geologists have derived much knowledge from the study of these rocks. The history of this earth for thousands, perhaps millions of years, prior to the date to which any record brings us back, is imprinted in them. The whole earth is supposed to have been, at one time, a liquid mass of molten matter, such as is thought to exist at present 40 miles beneath its surface ; this, by gradually cooling, hardened into what are called the igneous rocks. Mountain chains, and the other inequalities which mark the surface of our globe, are supposed to have originated from the internal expansive force of the earth acting on weak portions of her crust, the surface in these parts having been thus heaved up or broken into fissures through which volcanic matter was erupted.

From the existence of volcanoes, and the frequency of earthquakes, we are led to believe that there must be elastic fluids, subjected to enormous pressure, in the interior of our planet.

Above the igneous or oldest rocks—such as granite—are the *aqueous*, which have been precipitated from a fluid—water—in layers or strata—hence called *sedimentary* rocks, such as sandstones, slates, limestones, chalk, beds of clay—till we come to the surface soil, formed by the disintegration of rocks of various kinds, acted on by air and water, and mixed with animal and vegetable remains.

Some authorities make three divisions of rocks : the *igneous*, or *volcanic* ; the *aqueous*, or *sedimentary* ; and the transformed, or *metamorphic*. These latter, however, are included in the sedimentary ; but they have their nature changed by the action of heat, after deposition—such as marble from limestone. The igneous rocks, in a molten state of intense heat, coming in contact with stratified rocks, caused the change.

The formation in these various classes of rocks is still going on.

The igneous matter in the earth, striving to burst its way through the rocky crust, encounters an opening through the centre of a volcano, and is ejected as *lava* from the summit. This, by its contact with rocks, and by the action of vapours usually accompanying volcanic eruptions, *metamorphoses* them. By separation and precipitation from liquids, especially when charged with carbonic acid, sedimentary rocks are being formed. By the union of *detritus* of rocks another sort of stone (*pudding-stone* or conglomerate) is formed.

Metallic veins are said to originate by *sublimation*, or by vapours rising through fissures, and leaving deposits.

As the stratified rocks have been formed by the disintegration and gradual wearing away of the unstratified, these small portions carried along by water in motion, settled at the bottom of ancient lakes and seas, and with them the remains of animals and plants. These *organic* remains are called *fossils*. Among the fossils are shells, plants, reptiles, etc., of species dissimilar to any now in existence in the water or on the land.

Limestone is almost altogether formed from microscopic shells. Coal consists almost exclusively of the remains of plants.

The volcanic forces generated by heat in the centre of the earth, besides causing earthquakes, give rise to *thermal* or hot springs and gases, which ooze up in various places; and it is also thought that the gradual rising and subsidence of land in parts of the world are produced by these forces.

The existence of this heat is proved by the increasing warmth of the interior as we descend into the earth. In mines, for every 54 feet we go down, the temperature increases one degree Fahrenheit. The hot springs and gases, already spoken of, point to this conclusion, as well as the fact that the water of artesian wells becomes warmer as the depth increases.

The rate of 1° to 54 feet, will give us the temperature of boiling water at two miles' depth, that of red-hot iron at nine miles, and at forty miles every known substance must be in a state of fusion.

We thus find, at the present day, satisfactory explanation of geological phenomena.

The Waters of the Globe are divided into *springs*, *rivers*, *lakes*, and the *ocean*.

Springs arise from sheets of water stored underground, and as water will "rise to its level," if the reservoir be in a hill the spring on the lower ground will gush up as a fountain; on the other hand, if the source of the supply be deep below, the water will not rise to the surface, and must be brought up by a pump or by a bucket.

These internal supplies are formed by rainwater or melted snow entering the earth through fissures, or through the soil, till it meets with some stratum through which it cannot pass, such as clay ; it then rises till it finds an opening through which it runs out as a spring.

Spring water contains some solid substance, earths, rocks, and metals, in solution in the form of salts. *Soft* or rain water has a very small proportion of these in solution. *Hard* water has much more ; these substances, or one or more of them, in solution, causing the hardness. *Mineral springs* contain a great abundance of these salts.

Rivers form the natural drainage of the land, and return to the sea the surplus waters circulating between the ocean, air, and dry land. Besides this, rivers fill many and important offices. They enrich the plains at the expense of the mountains, collect nourishment for plants, carry food to the sea for its inhabitants. River water contains large quantities of lime, held in solution, from which sea animals build shells and coral islands. The high land between the sources of rivers flowing in opposite directions, is called a *watershed*, and the extent of the country drained by a river its *basin*.

Rivers run generally at right angles to the mountain chains, and from the direction of the great chains of mountains most of the great rivers flow from west to east ; few towards the west. The Atlantic Ocean receives the surplus waters of the greater part of the world.

A slope of more than 1 in 1,000 feet gives rise to *rapids*, and renders rivers unnavigable. Matters carried in suspension are often deposited in large beds, of a triangular shape, at the mouths of rivers, and are called *deltas*.

Many rivers overflow their banks, more especially in the torrid zone, following the wet season or the melting of snow. This, by a deposit of mud along the valleys through which they flow, causes great fertility.

Lakes.*—Lakes may be usefully described under four heads :—

* “As rivers are natural channels on the earth’s surface, along which water that has fallen from the skies, as rain, or rises from the earth in springs, makes its way from the higher grounds to the sea,

If several springs and small streams of water fill up a cavity or basin, and evaporation is not sufficient to dispose of the whole supply, the waters will form for themselves a channel and issue forth as a river. Such is the origin of the Mississippi, flowing a considerable river from Lake Itasca; of the Volga, which flows from Lake Teruoff; of the Oxus, rising in Lake Sir-i-kol, Thibet; and of the Nile, issuing from Lake Victoria Nyanza.

Another class of lakes consists of those which occur in the course of a river, as Ree and Derg in the line of the Shannon, and the Sea of Galilee along the Jordan. The waters of both these kinds of lakes are always fresh.

A third class consists of lakes which have streams running into them and have no outlet visible, such as the Dead Sea. These are for the most part salt. The purer parts of the water are taken off by evaporation or sink into porous beds in their basin, and leave a deposition of mineral substances carried from the land, including a considerable quantity of saline particles.

Lakes which have no visible outlet, or any water flowing into them, are supplied by springs in their beds which compensate for the water lost by evaporation. These are supposed to be craters of extinct volcanoes: lake Albano, near Rome, is an example.

Some lakes are *periodic*, and are most likely supplied by intermitting springs. Very small mountain lakes are called "tarns," such as those among the Welsh mountains.

Lagoons are usually found on flat coasts, and are almost always shallow.

The Ocean.—Nearly three-fourths of the surface of the globe is salt sea, and it has been computed by Maury to

so lakes are depressions, or basins, in which the running water, checked in its progress, is forced to accumulate until it overflows the edge of the basin, or till it finds an outlet of equal capacity with the running stream. Should there be no such outlet, it is clear that the water must continue to accumulate, until the evaporation from the surface equals the quantity of in coming water."

have an average depth of two and a half miles (others reckon it at less), and to weigh 309 of our atmospheres. The functions performed by the sea are various. The greater part of the dry land has been shaped into its present form by the sea and "its artificers" in prehistoric ages. The sea, by its currents, winds, and rainfall, moderates the cold of the frozen zones and the heat of the torrid. It is the treasure-house of the rains and rivers. The action of the waves breaking rocks to pieces, and forming sand for future use in the production of land in other places, is daily going on around our coasts. In other places its insects are building up islands: future habitations for man.

The ocean has multiplied those bonds which unite the whole human race. It teems with varieties of animal life, some beautiful and highly organized. Its boundlessness and immensurability deeply excite the imagination. Proximity to ocean has had on many nations a mighty influence on character and intellectual culture.

Seawater has the following ingredients in 1,000 grains (*Maury*).

Pure water,	. . .	962·
Chloride of Sodium,	. . .	27·1
" Magnesium		5·4
" Potassium,		·4
Bromide of Magnesia,		·1
Sulphate of Magnesia,		1·2
Sulphate of Lime,	. . .	·8
Carbonate of Lime,	. . .	·1
Residuum,	. . .	2·9

1000·0

This residuum consists of iron, copper, silver, silica, iodine, etc.; in fact, something of everything that water can hold in solution is to be found in the sea.

Why seawater is salt is partially answered by saying it tends to check too great evaporation, which would change climates. The saltness increases with the depth; in the Gulf of Bothnia the water is more salt in winter than in summer, in consequence of its receiving so much more fresh water in the latter season. The Baltic Sea, connected with the ocean by a very narrow strait, and receiving a great number of rivers, is much less salt than the ocean. The ordinary reply that salt preserves the waters from corruption is now controverted. The salts of the sea assist in circulating its waters by giving them "dynamical force."

Salt water does not freeze so quickly as fresh water, so that it is only in very extreme cold that the sea is covered with ice. Fresh water freezes at 32° , its point of greatest density being 39° . In sea water the greatest density corresponds with the freezing point, which is 4° below that of fresh water, as the former expands in cooling from 39° to 32° , and the latter contracts to its freezing point (28°).

Fresh water is coldest at top, and sea water warmest at top under a cold atmosphere. Thus, by the cold water descending, and the warmer ascending, the "aerial ocean" which surrounds us, the sea tempers climate everywhere in its neighbourhood. Ice is formed below in sea water, and then immediately ascends in small particles like a "snow storm in miniature." Thus, the salts of the sea cause a downward and an upward motion in its waters. Evaporation, by drawing off the fresh water abundantly as in the intertropical regions, causes the remaining waters to be more salt, and consequently heavier—equilibrium is disturbed, and currents are formed.

The ocean must be understood to possess a *mean* level, although local winds and currents may produce some difference, but not to the extent formerly supposed. Baron de Humboldt says, that "The Red Sea, at or near its northern extremity, at the Isthmus of Suez, is at different hours of the day from 24 to 30 French feet above that of the neighboring part of the Mediterranean." This difference of level has, since the cutting of the Isthmus, fortunately not been found to exist, although believed in from the earliest times.

There are two laws to be borne in mind, which will give a general key to the explanation of currents and counter currents.

1. "From whatever part of the sea a current runs, back to that part a current of equal volume must flow.

2. "Whenever and wherever the waters of the sea in one part differ in specific gravity from the waters in another part of the sea, the heavier waters will flow, by the shortest and easiest route, towards the lighter, and the lighter will, in turn, seek the place whence the heavier came."—MAURY.

These laws will account for the upper current from the Baltic, where the water is to a large extent fresher than the German Ocean, and an undercurrent of saltier or heavier water from the German Ocean into the Baltic. The currents into and from the Mediterranean

proceed from different causes: the evaporation from the surface of the Mediterranean being in excess of the fresh water poured into it by rivers, causes its waters to be heavier than those of the Atlantic. These heavier waters pass in an under current to this ocean at the strait of Gibraltar, while to supply the loss by evaporation, a larger over-current enters it from the Atlantic. Were it not for the under current from the Mediterranean, that sea would become a salt bed.

These are two examples of currents caused by means of the "salts" of the sea giving a different specific gravity. There is an under current from the Red Sea (rainless region) into the Indian Ocean, owing to similar causes.

The **Gulf Stream** is the most remarkable of permanent currents. It is an oceanic river, carrying warm water into higher latitudes, and in connection with it are other currents carrying back its waters, made cold by the frosts and ice of the Arctic Sea. It originates on the African coast, chiefly from water carried there by a current from the Great Southern Ocean. The waters are deflected to the west by the coast north of the Gulf of Guinea, and by the more rapid rotatory motion of the earth towards the east in the equatorial regions, causing the waters coming from towards the south pole to have an *apparent* motion in the opposite direction, namely, towards the west. These waters, as it were, lag behind, and as regards the earth's motion, seem to be contrary to it, and are contrary to it as regards the *adjacent* land and water. Another small current from the Bay of Biscay joins it from the north; it now forms an equatorial current across the Atlantic to the coast of South America where the triangular form of coast at Cape St. Roque separates it into two branches, the smaller one flowing south along the eastern coast till it is lost in the Antarctic Ocean. The main branch continues its westward course through the Caribbean Sea, increasing in temperature under a tropical sun, and, through the configuration of the land around the Gulf of Mexico, accumulates there with a heat still increasing. From the Gulf of Mexico it issues as an impetuous stream, at the rate of from 80 to 100 miles a day along the American

coast, with a diminishing velocity, but an increasing breadth, until, deflected to the west by the banks of Newfoundland, it recrosses the Atlantic. At Newfoundland it meets a cold current from the Arctic Ocean, which, being denser, dips under and flows south as far as the West Indies, where, at immense depths, it is found to be not many degrees above freezing point.*

A large branch of the Gulf Stream crosses the Atlantic to the Azores, where it arrives in about 28 days, and continues a north-easterly course to the British Isles, and even to the most northerly part of Scandinavia. Where the stream is deflected to the east at Newfoundland's banks, it sends a portion of its waters southerly, which, gradually losing their motion, become nearly stationary west of the Canary Islands. These waters are covered with sea-weed, and form the *Sargasso Sea*, studded with sea plants. Through this Columbus sailed in one of his voyages to America.

By the Gulf Stream current the west side of Europe, and especially Ireland, has its winter modified to a considerable degree, and its temperature raised.

Many theories have been advanced as to the cause of the Gulf Stream. If not wholly caused by the trade winds, and a dynamical power residing in the difference between the specific gravity of the cold water of the north and Atlantic, and water in tropical latitudes, it is certainly greatly influenced by these circumstances.

* The water of the Gulf Stream is distinguished from the other waters of the ocean by the higher temperature, greater saltness, indigo colour of the surface, the floating sea-weed, and the general warmth of the surrounding atmosphere, particularly in winter. It is said that a drop of water requires 2 years and 10 months to complete the course of the Atlantic with the Gulf Stream. If a boat not subjected to the influence of the winds be placed at the Canaries, it will reach Caraccas in 13 months, complete the tour of the Gulf of Mexico in 10 months after, and in 45 days more arrive at Newfoundland. This stream throws fruits of the West Indies on the coasts of Scotland and Norway, and the *debris* of the vessel *Tilbury*, burnt in Jamaica, was thrown on the coast of the former.

In the Pacific Ocean, the general tendency of the waters at the equator is, as in the Atlantic, from east to west. This flow of water is, in addition to the reasons already given, said by Humboldt to be regarded as the joint effect of the trade winds, and of the progressive propagation of the tidal wave. The eastern parts of continents modify its direction. From the great expanse of waters in the southern sea, the chief currents of the ocean have their origin there. A large oceanic current commences and flows north-east to the west coast of South America, lowering its coast line temperature, then bends westward at the tropic of Capricorn, and forms, with another like current from the north, what is called the Great Equatorial Current. It then crosses the Pacific in a wide belt, enters the Indian Ocean through the many channels among the islands of Australia, continues to flow west, till it reaches Africa, passes south on both sides of the island of Madagascar, and is lost in southern waters.

Between Mozambique and Madagascar, the heated waters accumulated in the Arabian Sea rush with much velocity through the channel, and blend the warm waters of the tropics with the cold waters of the south.

On the other hand, the Gulf Stream blends the warm waters of the tropics with the north polar waters.

Other currents, called *variable* and *periodic*, are caused by long continued winds, tides, melting of ice, etc.

Tides.—The attraction of the sun and moon on the water causes tides. The great *tidal wave* takes its rise, like the great equatorial current, in the Southern Ocean's wide expanse. These waves occur twice each day, or, more strictly speaking, twice every twenty-four hours and fifty minutes. When the tidal wave is out at sea, the waters recede from our shores, and it is *ebb-tide*, or *low water*. As this wave strikes the coast when following the moon in her course, it is called *flood-tide* or high water.

The tidal wave first reaches the west of the British Islands round by the Orkneys, and meets at the mouth of the Thames another portion of the wave which has been travelling meanwhile through the British Channel.

The cause of another tidal wave at the same time on an opposite meridian of the earth is said to be the moon drawing the earth *away* from the water by means of attraction.

While the moon moves round the earth, it requires about 50 minutes to bring the same part of the earth's surface under the moon in addition to the 24 hours allowed for the earth's rotation on its axis.

The sun, in a less degree than the moon, exercises a similar attractive force on the earth ; so that at the times of new and full moon, when these influences are combined, spring tides, or tides exceeding the average height, are caused. At quadrature, the sun and moon act against each other, and neap tides are caused. In mid-ocean, the tidal wave is said to be 3,000 miles broad and 5 feet high.

Near the land, this wave rises much higher, especially in narrow channels and bays open towards the south. Its height is, to a great degree, dependent on the contour of the coast. At Bristol, it often rises higher than 50 feet in the English Channel, $12\frac{1}{2}$ feet, and in the Bay of Fundy, Nova Scotia, 70 feet. When against the current of a river, as the Ganges or of one opening into a funnel-shaped channel, as the Severn, a great wave rolls violently and suddenly, it is called a *Bore*; and this rises 180 feet in the Marañon.

The height of the tides is modified by local circumstances. When they come from a great expanse of water upon an irregular and broken coast, where their force becomes concentrated, they rise higher, as on the west coast of Europe and America, and the east coast of Asia. On the contrary, in seas surrounded by land, such as the Mediterranean and Baltic, only a very small rise in the water is perceptible.

Wind Waves.—The height of waves on the ocean depends on the direction in which the wind strikes the water, and on its velocity and force at this point.

The largest waves are met with to the south of Africa, where the expanse of sea gives room for their formation. The greatest height of waves has been ascertained not to exceed 40 feet.

It is but the form of the wave that advances ; the water composing it rises and falls in nearly the same place. An apt illustration of the motion of a wave may be given by shaking one end of a carpet, when something like a wave will run along it. The same may be said of the tidal wave. Were it otherwise, ships would be dashed to pieces, and the sea cease to be the highway of the nations.

Waves coming into shallows near the shore, or striking on rocks, produce *breakers* or *surf*. This is accounted for by the lower part of the wave being kept back by the strand, the upper part moves more quickly, and consequently rolls over.

Sometimes, on the west coasts of Ireland, and on the Cornish coast, when the air is calm, the sea rolls in great waves. This is called a *ground swell*, and is the effect of a storm raging out in the Atlantic many miles distant. According to the direction in which it is heard, a storm is predicted, or fine weather expected. This ground swell is also felt on other coasts open to the direct waves of the ocean.

The Atmosphere is the "aerial ocean" which surrounds the earth on all sides, and at whose bottom we live. It is about 50 miles in height, and has the same weight as an ocean of water would have of the same surface, and 32 feet deep. *Dry* air contains 20·8 parts of oxygen to 79·2 of hydrogen. It also contains from 2 to 5 thousandth parts of carbonic acid gas, and a still smaller quantity of two other gases, carburetted hydrogen and ammoniacal vapour. Water in the form of vapour is always present in the air. These substances all move freely among each other, mixed but not chemically combined, ready to perform the functions allotted to them. Oxygen sustains life and combustion, the carbonic acid and nitrogen promote and perfect vegetable growth, while the vapour descends in showers or dew.

The air is elastic, and therefore denser in the lower regions near the surface of the earth or sea than it is on the tops of lofty mountains. This weight or density is proportional to the height above sea level. The air at this level has a weight of $14\frac{1}{2}$ lbs. to every square inch. This is what the air weighs *resting* on that square inch, and is balanced by a column of mercury 30 inches in height. The mercury thus balanced by the air, with slight variations, stands at the same height everywhere at sea level, and falls in a geometrical ratio as we ascend: we can, by this means, ascertain the height of a mountain plateau or other elevation. The first 87 feet we ascend a mountain, the *barometer* falls 1 inch: we ascend through a greater space as we get higher and higher to cause the same fall.

The presence of vapour, the currents of wind, and electric action, affect the density of the air at the same place: hence, a fall in the mercury portends the approach of rain and storms.

The temperature of the atmosphere diminishes as we ascend, and this diminution is consequent on its increased rarity. In the lower regions of the air, the decrease of heat is one degree for 350 feet of ascent. The tops of mountains even at the equator are always covered with snow.

The atmosphere reflects light. If it were not so, total darkness would surround us except where the sun was shining. Twilight is due to the refraction of rays of light in passing through the atmosphere. It conducts sound in every direction at the rate of 1,142 feet per second. It moderates temperature, by the interchange of air between polar and equatorial regions, attended by the condensation of vapour.

Refraction.—Rays of light, in passing from one medium to another of greater or less density, deviate from a straight line, and appear bent where the one medium comes in contact with the other. This property is called refraction. It may be illustrated by the following experiments:—

If a walking stick or the blade of an oar be partially plunged into a river or other collection of water, and held in a slanting position, it will appear bent; if its inclination be increased, the refraction is also increased; but if the stick be held upright, no refraction takes place; for the effect of the rays of light being the same on all sides, no deviation from the original direction of the rays takes place. Or, again, if you place a shilling or any small coin in an empty basin, as near the centre as possible, and retire to such a distance as just to lose sight of the object; let another person pour in more water, and the coin will soon re-appear. The experiment may be repeated until the basin is full. The edge of the basin may be supposed to represent the horizon, the water the atmosphere, and the small coin the sun, which the power of refraction causes to appear above the horizon when it is actually below it.

Parallax is the difference between the true and apparent position of a heavenly body.

Twilight.—Had we no atmosphere, we should have no twilight, and instead of the gradual transition in the evening from light to total darkness, and in the morning from darkness to daylight, we should be subject twice a day

to the instantaneous change from darkness to sunlight, and *vice versa*. When the sun is not more than 18° below the horizon, his rays, striking into the higher region of the atmosphere, and being by the clouds and vapours suspended in it reflected to the earth, cause twilight, which varies in duration according to the season of the year, latitude of the place, and the state of the atmosphere.

WIND.

Around the middle of the earth, in consequence of the sun being constantly vertical or nearly so, the air becomes heated, and, consequently, ascends, while the cool air from the colder parts of the earth, north and south, rushes in to supply its place, and give rise to the most constant and regular winds on the surface of the globe, called *trade winds*, so named from their being favourable to navigation and trade. These winds extend about 30° north and south of the equator; the north of the equator their direction, which is greatly influenced by the rotation of the earth on its axis, is from the north-east, and on the south of the equator from the south-east. Of course, the force and direction of these winds are very much affected by local causes, such as the intervention of high mountains, sudden perturbation in the atmosphere, etc. Their course is most permanent and regular in the open seas. The *monsoons* are to a certain extent modifications of the trade winds, and are found in the Indian Ocean, and shift their direction every six months.

Sirocco, *harmattan*, and *simoon* are hot and pestilential winds originating in the great African desert.

A *hurricane* is a storm of excessive violence, usually occurring among the West Indian islands.

A *cyclone* is a hurricane occurring in the northern portion of the Indian Ocean, and blowing in a circular direction. A *whirlwind* is caused by the meeting of currents of air coming in different directions.

Typhoons are a kind of whirlwind moving with great impetuosity in the Chinese seas.

Motions of the air.—The chief cause of motion in the atmosphere is change of temperature. Heat produces expansion of air, which rises and, as it were, *overflows* to a place of greater coldness, while the cooler air rushes in from all sides to take its place : thus currents of air are originated. Great movements of this sort are daily going on between the centre of the torrid zone and the polar regions. The portion of the earth at the equator is heated constantly by a vertical sun, and a large portion of vapour being drawn into the air from the sea, besides what vapour comes by currents of air from each side, blowing for the most part over the ocean, and as vapour is lighter than air, this central part of the atmosphere rises and expands. A large portion of the vapour is condensed into cloud and rain ; the latent heat of the vapour is set free ; further expansion ensues, and the air is made warmer and lighter. Where this takes place is at the equator, chiefly towards the north, and is called the *Equatorial Calm Belt*.

The prevailing winds on each side of this calm belt, blow from the south-east to the south of the equator, and from the north-east north of the equator : these winds are called the *trade winds*. The overflow of heated air at the equatorial calm belt passes on each side towards the north and south polar regions, and gradually cooling in its progress, meets the earth about the tropics of Cancer, north, and Capricorn, south : two belts of *calms* are there formed. Currents which left the polar regions to supply the place of the air drawn up by heat meet at the tropics with the currents from the equator. Both currents had, for the most part, travelled in the upper regions of the atmosphere, and now take the earth ; one towards the equator, forming the trade winds : the others towards the poles, forming the *counter trades* or south-west winds, which generally prevail in the northern hemisphere, and south-west of the southern, and ending in the polar calms.*

* Let us imagine the surface of the earth for the first time to be exposed to the action of a tropical sun at the equator. It is evident

The *calms* at the equator constitute a belt of almost constant precipitation ; those at the tropics are comparatively *dry*, and bring a dry season to those places within their range. The cloud ring of the equatorial calm belt moves also, bringing in its course a *rainy* season, following the sun in its declination.

If the earth did not rotate on its axis, these movements of the air between the equatorial and polar regions would be directly north and south on each side of the equator ; but while the currents from the poles approach the inter-tropical regions, they are passing to where the earth has a more rapid rotatory motion (as was explained in relation to the equatorial current of waters) from west to east, than they had acquired in the parts from whence they came. We, as it were, strike against them, from their being *partly stationary*, as regards motion towards the east, and we experience an east wind.

The currents, on the other hand, coming from the equatorial parts, where they had, in common with the earth, a rapid motion from west to east, blow as if from the west, while going to the north and south, and form the prevailing south-west winds of the north temperate and north polar regions, and the south-west wind of the south temperate and south polar regions. From the prevalence of south-west winds in the North Atlantic Ocean, the average voyage from New York to Liverpool is only about half as long as the return voyage.

There is more irregularity in the winds called counter-trades than in the trade winds, owing to the latter encountering polar currents, and also from a variety of local causes.

The atmosphere, by means of these two great currents, moderates the extremes of heat and cold, and renders

the earth's surface imbibing the heat more quickly than the atmosphere, the air immediately over the surface would quickly cause the adjacent air to become heated and to ascend, being lighter than the air around, when the cool air would rush through the lower regions of the atmosphere to supply its place. This air becoming heated, rushes up from the earth into higher regions of atmosphere, and goes towards the N. and S. to supply the place of the air going in a contrary direction. But these currents of air are affected in both cases by the motion of the earth on its axis ; and hence they neither proceed directly N. nor directly S.

the earth habitable to a greater extent than otherwise would be possible.

A knowledge of the aerial and oceanic currents is of much value to mariners for the purpose of shortening voyages.

Monsoons.—The cause of the monsoons is the rarification of the air over rainless tracts, chiefly desert, in the interior of Asia and Africa. This occurs for the most part in summer and autumn, when the arid surfaces have become much heated by exposure to the sun. During our summer, when the sun is vertical north of the equator, a south-west wind (the north-east trade wind turned backwards) blows over India and the adjacent countries from May till October. This south-west monsoon blows from the sea, and comes impregnated with moisture, which is abundantly perceptible over the land; the latent heat then liberated by precipitation of rain causes further vertical expansion, and currents of air rush with greater force towards the central plateau of Asia. From October to May the wind resumes its usual direction of north-east, being, in fact, the northern trade wind, but improperly called the north-east monsoon.

Monsoons prevail in the Gulf of Mexico, on the western shores of Africa, and some of smaller dimensions are felt on the coast of Australia, blowing, when the sun is south of the equator, towards the heated and dry interior. Monsoon winds are also called *Periodic*.

The change from one monsoon to the other, though gradual, is generally accompanied by great storms; and these winds are said to be arrested in their course by mountains of moderate height, clearly proving that they do not exist in the higher atmospheric regions.

Sea breezes occur in hot climates, in places bordering on the sea, and are caused by the unequal heating of the land and sea. They may be classed among the *periodical* winds.

The land during the day becomes more heated than the sea, the air above it becoming rarified ascends, and to supply its place a current sets in from the water towards the land, which blows from about nine o'clock in the morning to five

in the afternoon. After sunset the land cools rapidly, while the sea retains much of the heat, and the air above the latter becoming more rarified than the stratum of air over the land, a *land* breeze, which continues during the night, is the result.

Vapours, Clouds, Dew, etc.—Water is always present in air as vapour. The warmer the air the greater the quantity of vapour it will contain. A cubic foot of water at freezing point will hold but $2\frac{1}{2}$ grains of moisture, while at 70° it will contain $5\frac{3}{4}$ grains. At any temperature a given quantity of air can hold a certain portion of vapour, and is said to be *saturated* when it will hold no more. If air saturated be over an ocean or sheet of water becomes increased in temperature, vapour will ascend from the water below till the air becomes saturated at the new temperature.

If the temperature of the air thus saturated be again lowered it will have more than sufficient vapour to saturate the air at its lower temperature, and part of the vapour will be deposited on the surface under it as dew. The temperature at which this takes place is called the *Dew Point*.

The amount of vapour in the air is measured by the Hygrometer.

The temperature of the air and the *dew point* enter largely into considerations as to the probable weather. If they are near to each other, and a further reduction of heat in the air likely to follow, some vapour must be precipitated and rain will follow; if the temperatures are not near, dry weather may be expected.

The heat of the sun is constantly drawing up vapour from the great ocean, and from every other exposed surface of water all over the globe, and even from masses of *ice* and *snow*, this vapour being distributed by the winds everywhere through the atmosphere.

When from any cause air saturated becomes cool, the vapour condenses, that is, forms little water drops like fine powder so to speak, and is visible as *fog*, *mist*, and *cloud*. The more rapid cooling of the land during a night in calm clear

weather, causes the air which is in contact with its surface to cool and condense its vapour, which falls as dew.

Anything hindering *radiation* prevents the formation of dew. Gardeners put a screen over plants at night to protect them from frosts by keeping them from being cooled too much. On the same principle, there is very little dew on cloudy nights; because of the cold and warm air being mixed together.

If the condensation of vapour takes place in the higher regions of the atmosphere, *rain drops* are formed; dew drops by contact as above explained.

When vapour is condensed into the solid state at once by greater cold, crystals are formed, called *snow* when this congelation takes place in the air, and *hoar frost* when it occurs by contact with the ground, leaves of trees, etc.

If drops of rain are cooled below 32° they form *hail*: this happens either by their passing through a stratum of cold air, or from very rapid evaporation.

Rain is generally formed by the *mixing* of currents of air at different temperatures; the warmer air, being deprived of its heat, parts with its moisture, which falls in drops of rain.

Most evaporation takes place in the torrid zone, from the great heat of the sun there, and the immense quantity of water exposed to his rays, and a large portion of the vapour is carried towards the north and south poles by the currents of air we have spoken of as prevailing between the poles and the equator. The high temperature of the air in the torrid zone causes this great quantity of vapour to remain invisible, and though the atmosphere may appear dry and clear, it is loaded with moisture. In colder regions, although the air holds less moisture in solution, yet, owing to the cold, it often takes the form of clouds or fog.

Hence the temperate and frigid zones have, generally speaking, a cloudy sky, and mists and fogs frequent.

When the sea is warmer than the air above it, *fogs* are formed. This is of frequent occurrence, also, when the current of air from the poles falls to the surface of the earth,

as it often does about the Banks of Newfoundland, and at the seaports of Great Britain in winter.

More rain falls at the equator, following its zone of calms, than towards the poles, and more on the western than on the eastern side of continents in the temperate zones, the reason being that the winds in both temperate zones move for the most part in a westerly direction, and come full of moisture. More rain falls in Ireland than in England. There is an average annual rainfall for 208 days in the former country to 154 days in the latter. In India, the fall of rain depends on the monsoons. In the torrid zone, the eastern sides of continents, especially America, have most rain, owing to the trade winds. The greater the distance from the coast, generally speaking, the less the fall of rain.

Although we have more rainy days in winter than in summer, yet it often happens in this country that the quantity of rain which falls in June, July, and August, exceeds what falls during the remaining months of the year.*

Local causes, such as prevailing winds, variations of the surface of the earth, modify the rainfall of a district. Rainfall is more abundant in the New than in the Old World. Intertropical America has a rainfall of 115 inches; the same latitude in the Old World only 76 inches. The less compact form of the American continent in the equatorial regions is probably the cause. Mountains and extensive forests, by presenting a cool surface to the winds, produce an increased rainfall. At the equator, 95 inches of rain fall in 80 days; in England, from 37 inches on the west to 22 inches on the east, on 154 days; at St. Petersburg, 17 inches in 100 days.

The annual average rainfall of the United Kingdom is just the same as that of Ireland, namely, 34 inches.

In intertropical countries the rains are periodical, or recur at regular intervals at a certain time of the year, and only fall for an hour or two at mid-day very heavily. In the temperate regions, where local causes strongly affect natural phenomena, the rains are *variable*, but for the greater part they accompany the prevailing winds from the south-west and west.

In India, the rainy season comes with the south-west monsoon, the arrival of which is announced by a great number of clouds arising from the Indian Ocean. After some days, the sky appears agitated

* M. Arago gives the following as the average annual rainfall in the places named: Cape Français (St. Domingo) 121 inches, Calcutta 80, Kendal 61, Pisa 48, Naples and Dover 37, Liverpool and Manchester 33, London and Paris 21 inches.

in the evening, and the monsoon usually commences during the night. It is accompanied by such sounds as would almost terrify the inhabitants of a temperate climate, and violent gusts of wind are succeeded by immense torrents of rain.

Rainless regions, as already said, are found in both hemispheres. In the eastern they extend in a wide belt across the widest part of Africa, eastward by the Isthmus of Suez, and for the most part over the Red Sea and Arabia, and, though not continuously, over Persia and Cabul, terminating in the great desert of Gobi.

In the New World, the rainless belt extends north and south through Chili, Peru, and, with an interruption at the Isthmus of Panama, through California and Mexico. These extensive "*waters*" enter largely into the economy of nature for supplying moisture to the large outlying tracts of land in large continents, as was explained when speaking of the monsoons.

Winds from the ocean, as those striking on the east of continents in the torrid zone, and on the west coast, though with more irregularity, in temperate climates, lose their moisture, which falls as they pass on, and meeting with ranges of mountains have their moisture completely *squeezed* out of them and reach the interior as dry winds. The existence of a rainless district along the seaboard of America on the west is accounted for in this way. The dominant winds are from the east; these winds, charged with moisture, travel over to the west, giving rain to the plains of Brazil, and "*licking up*" a portion of this moisture again, till they come to the snow-capped Andes, where the remaining moisture is condensed amid thunder, lightning, and storm, and falls on these higher altitudes. The winds pass down to the plains to the west of this range *rainless*. The *position* of the Andes thus determines this rainless region.

Climate.—The climate of a place is its prevailing weather or the degree of warmth and moisture usual at that place. We usually distinguish climates by the terms cold, wet, salubrious, equable, extreme, &c.

The prominent causes of differences of climate are the *heat of the sun*, the *proximity of the sea*, *elevation above sea-level*,

the *prevailing winds*, the *position of mountain ranges*, *currents of the ocean*, *aspect and nature of the soil*.

It may be laid down that the temperature of the earth's surface decreases from the equator towards the poles.

Climate may be *equable* if the changes from heat to cold are gradual; *extreme*, if sudden or great.

The sun being the great distributor of heat, the temperature of any place depends very materially on the amount of exposure to his rays. As long as the sun is above the horizon, a place is receiving heat, but when the sun sets, heat is parted with by radiation.

When the sun, then, is more than twelve hours above the horizon, at any place, heat is accumulating; when below the horizon for more than twelve hours, the reverse takes place.

The sloping position or inclination of the earth's axis gives rise to the sun's apparent movement up and down in the course of a year between the tropics, giving a more general diffusion of his heat, and causing the rainy season to exist wherever he is vertical—a providential arrangement for modifying heat where most powerful, and bringing the necessary change of the seasons.

If the temperature of any place were solely regulated by the sun's heat, the division into zones would sufficiently mark the differences of climate, and latitude would determine the exact climate of all places on the parallel; but the earth's surface being so much broken by hills and valleys, and other circumstances so greatly modify climate, that considerable differences exist in places the same distance from the equator.

Isothermal (*equal heat*) lines have been drawn round the globe to show the average annual temperature, but on these lines an *extreme* climate may correspond with an *equable* one.

The climates of London and Pekin illustrate this forcibly. Their *mean* annual temperature is 51° , while the January temperatures are respectively 37° and 25° , those for July are 64° and 84° ; the difference for summer and winter being—for London 27° , for Pekin 59° . One climate, that of London, is equable, the climate of Pekin, on the contrary, is extreme.

Sea water moderates temperature. Places near large bodies of water have a more equable climate than places in the interior of continents in the same latitudes. Ireland

has a higher winter temperature than any part of Great Britain, with the exception of a very small district in Cornwall. The Atlantic Ocean may be considered a great treasure-house, in which the heat of the summer months, as well as that of the more southern climes brought by the Gulf Stream, is reserved against the rigours of winter.

Water has the greater specific heat, and therefore parts slowly with its heat, while the land radiates its heat freely. This heat-giving power of water, it is to be remembered, takes place whenever water is cooled.

The mean temperature of Ireland in January reaches round Cork and Kerry to 43° ; on the eastern and central districts of England to the Thames it is but 37° . Hence, the winter climate of the former district is higher by 5° than that of the east and centre of England, the shallow German Ocean having little influence. Again, London has a winter temperature of nearly eight degrees higher than Vienna, which is three degrees south of it.

To prove the influence of the ocean further in connection with these islands:—The mean temperature of the central inland portion of Ireland during the winter is 39° , or 4° lower than the south-west, and 3° to 2° lower than the west coast line between the same parallels. In England the whole of the midland and eastern counties averages 37° .

In the summer (July) the reverse takes place. Then the east has a higher temperature than that of the west. This arises from the temperature of the land being higher in summer than that of the water, the former being more easily heated.

Generally speaking, the southern is colder than the northern hemisphere. The circle of ice around the N. pole extends 10° , while that around the S. extends nearly 20° , the enormous icebergs which are detached from the latter are sometimes to be met with in latitude 30° and even 40° S., while the land of Terra del Fuego has a climate of eternal snow. South France enjoys a delightful climate, while in the same latitude in the southern hemisphere the climate is very extreme.

As far as the 44th parallel N. and S. the temperature of both hemispheres is much the same. Another cause of the heat diffused in the northern being more than that of the southern, is that the time between the vernal and autumnal equinoxes (from 21st March to 22nd September) exceeds the time from 22nd September to 21st March by 7 days.*

The isothermal line corresponding to 32° , that is, the freezing point, passes through Labrador about 2° S. of Nain, and touches Ulea in Lapland; while the line of 52° passes Quebec through Christiania in Norway, 3° S. of Upsal, and through St. Petersburg and Moscow.

Elevation is another cause of diversity of climate. A gradual change takes place from warmth to cold as we ascend above the level of the sea, till we reach a point of perpetual congelation: this point when extended round a mountain is called the *snow line*, and varies with the latitude.† The highest elevation which this line reaches is at the tropics, and the explanation why it is there, and not at the equator, is this: the accumulation of heat arising from the longer day— $13\frac{1}{2}$ hours—at these lines, is much more than at the central portion of the earth, where the day never exceeds 12 hours; the sun being vertical in both cases.

The snow line is higher on the side of mountains looking towards the equator than on the opposite side; but on the Himalaya mountains the highest snow line is northwards, in consequence of the radiation of heat from the central plateau of Asia melting the snow to a greater height, than the direct rays of the sun.

* Some give an additional reason, viz., the immense evaporation in the great southern expanse of ocean.

† The height of the highest mountain is so insignificant when compared with the immense distance of the earth from the sun, that it has no effect whatever on the temperature of the air on mountain tops. As we ascend an elevation, the air which, by the diffusion of heat on the surface of the globe at its bottom, was heated, becomes as it rises increased in volume, and, consequently, colder. The effect of the sun's rays in communicating heat is, of course, much greater upon the dense atmosphere at the base of a mountain than at its summit, as there is more vapour in the lower regions of the atmosphere.

The snow line, of course, varies with the season of the year: the difference between its greatest and least elevation is called its annual oscillation.

The prevailing winds affect climate. When the winds which prevail in a country sweep over a wide ocean, both cold and heat are tempered, as is the case in Ireland; when winds traverse large tracts of land, they vary from hot to cold according to the nature of the surface. In spring and autumn E. winds blow towards the British Isles for some time. In the spring these winds pass over cold and generally frozen surfaces of land in Russia and central Europe, and are by that means rendered bleak and chilly; but in autumn the same winds bring heat, by passing over the same plains, made dry and warm by a summer's sun.

The position of mountains, as we have seen in the case of the Andes, produces considerable effect on climate.

Italy and the south of Europe are sheltered from the cold blasts of the north by mountain ranges, and this is one of the causes of their warmth.

The nature of the soil also has its influence. Sandy soils become dry and quickly heated, and by radiation affect the temperature of neighbouring countries, as the Sahara affects the climate of places near it.* Clayey soils are bad conductors of heat. *Swamps* and *forests* chill the air: hence the draining of land and felling of trees may raise the winter temperature as it has done in parts of North America; irrigation and the planting of trees may moderate a hot climate and lead to increase of rainfall.

The line of highest temperature— 83° —is generally to the north of the equator, and passes through Africa at 11° north lat. The hottest portion of the world is in northern Africa about this parallel.

Aspect.—Siberia, which slopes towards the north pole, being turned away from the sun's rays, is an instance of

* The immense desert of Sahara is as a great furnace, which heats not only the districts around, but also those at some distance. Its influence is materially felt in the southern countries of Europe.

climatic influence through aspect. The coldest portion of the globe is here about 80° N. latitude, and at 95° E. long. It is said to have a mean temperature of 1° Fahr. There is another point in North America about the same parallel, 80° , and 100° W. long., which is said by some to have even a lower temperature. These points are called poles of cold.

Electricity and Magnetism.—When a person rubs a stick of wax on his sleeve, it attracts small bits of paper, feathers, and other light substances. This power is called *Electricity*, and may be produced from glass and other substances. All substances in nature are said to contain a portion of electricity.

A body is said to be positively electrified, when it acquires more electrical action than it possesses naturally; and is said to be negatively electrified, when it possesses less than this quantity.

Bodies oppositely electrified attract each other, and the union of the opposite electricity is generally attended by the emission of a spark attended by a report.

The lightning's flash and the thunder are the same phenomena on a larger scale. *Voltaic* electricity is produced from the chemical action of various bodies, chiefly metals and acids. Electricity may be transmitted through wires, and is under the control of man to a certain extent. From its wonderful action we have the electric telegraph.

Electricity gives rise to a multitude of natural phenomena—the Aurora Borealis, St. Elmo's Fire, which sometimes plays about the topmast of a ship; and some think that mineral veins, gems, and crystals, are found by its agency.

The mariner's compass, so useful to seamen, is formed of a needle or a small piece of steel magnetized. Its N. end points at Greenwich 24° W. of north. This deviation from the true north is called the *variation* of the needle. These variations occur to the east as well as to the west: in some parts of the world, there is no deviation from the real north.

The needle also dips towards the horizon, and more so till it reaches the perpendicular at a point in 70° N. lat., and 97° W. long. This point is called the *magnetic pole*. The south magnetic pole is in Victoria Land.

The needle is horizontal on a line (irregular) which crosses the equator four times; this is the magnetic equator. These poles, and the form and position of the magnetic equator are constantly varying.

Distribution of Plants.—Plants are nourished by the air and earth, and require light, heat, and moisture for their health and propagation. Plants vary in character with climate, soil, and elevation. Each plant has also a particular part of the globe where it arrives at the greatest perfection regarded as the centre of its creation.

The *Flora* (*Flos*, a flower) of any country, are the plants of that country spoken of collectively.

There are three great divisions in the vegetable kingdom, Cryptogams, Endogens, and Exogens. There are about 200 natural *families* of plants. Cryptogams are divided into Acrogens and Thallogens.

1. Cryptogamic, or *flowerless*, plants, are those whose fructifications, or mode of producing seed, is imperceptible, or scarcely discernible, such as mosses, lichens, fungi, ferns, algæ (sea-weed), etc. These are likewise called *acotyledonous*, and have no seed-lobe.

2. Endogenous, or monocotyledonous plants, have their growth from within, by the addition of new matter. The first name indicates the mode of growth, the second *one* seed-lobe.

The number 3, or its multiple, prevails in the divisions of the flowers, and the veins of the leaves are parallel. This class has but *one* leaf when springing up. Grass, grain-plants, as wheat, rice, barley, maize, lilies, palms, etc., are examples.

3. Exogenous, or dicotyledonous plants, grow by the addition of matter externally outside the pith, at or near the surface. They have two seed-lobes, and the veins of the leaves form a net-work. The number 5 usually prevails in the divisions of the parts of the flower, and they have two leaves in the first stage of their growth.

The ages of trees of this class can be determined by the rings of yearly growth, one outside the other. The forest trees, and most of the flowering shrubs and herbs, belong to this class.

Some plants are *evergreens*, that is, before the old leaves have fallen off new ones appear: others, *deciduous*, the leaves fall off and they are for a season leafless.

Plants are either *annual*, that is, lasting only one year and

renewed again from seed.; *biennial*, that is, sending out leaves and stems the first year and flowers and fruit the following; or *perennial*, lasting many years.

The *exogens* are far more numerous than the *endogens*. In tropical regions they are as four to one, in temperate as six to one, and in frigid as two to one. In the last named regions cryptogamic plants abound.

Baron Von Humboldt divides the globe into eight vegetable zones.

1. *Equatorial*, or region of the palms and bananas, extending about 15° each side of the equator.

2. The *tropical zone*, or region of tree-ferns and figs, from 15° to the tropics.

3. The *sub-tropical zone*, or region of laurels and myrtles, from the tropics to 34°.

4. The *warm temperate zone*, or region of evergreen trees, from 34° to 45°.

5. The *cold temperate zone*, or region of deciduous trees, from 45° to 58°.

6. The *sub-arctic zone*, or region of pines, from 58° to the arctic circle.

7. The *arctic zone*, or region of *andromedas* and alpine rhododendrons, from the arctic circle to 72°.

8. The *polar zone*, or region of alpine plants, gentians, ranunculus, etc.; lichens, mosses, from 72° to the utmost limit of vegetation.

Similar changes of vegetation are found in ascending from the base of mountains to their summits; as on the Andes, Peak of Teneriffe, Etna, etc.

Rice supplies food to the greater portion of the human race. It is grown chiefly in tropical countries and in marshy districts.

Barley is the most widely spread of all the corn plants.

Wheat is the chief corn plant of Europe and western Asia.

Rye is the principal grain used for making bread in northern Europe.

Oats is largely grown in Ireland, Scotland, and northern Europe.

Rye and oats are hardier than wheat, but not so much so as barley.

DISTRIBUTION OF ANIMALS.—The animals of any country when taken together are called its *Fauna* (*Faunus*, god of the woods).

Animals, like plants, have their natural habitations, but being possessed of the power of locomotion, these habitations cannot be fixed with a great degree of accuracy.

The animal kingdom has been arranged in five *great* divisions.

1. *Protozoa* are the lowest forms of animal life, including sponges, infusoria, and others in which no nerves or organs of sense have been detected.

2. *Articulata* are jointed animals—insects, crabs, etc.

3. *Mollusca* are soft-bodied animals—snails, etc.

4. *Radiata* are rayed animals—star fishes, etc.

5. *Vertebrata* are animals having a neck, bone, and skeleton—man, beasts, etc.

The articulated animals consist of a body formed of a succession of rings jointed together ; such as insects, crustacea.

The molluscous animals are such as the oyster, and the snail, which have a protection by shells ; others are without this covering, as the garden *slug*, cuttle fish, etc.

In the radiated animals the organs *radiate* from a ring surrounding the mouth as a common centre ; as the coral, sea-anemone.

Animal life, like the vegetable, is most varied and most largely developed in the torrid zone.

The vertebrata are subdivided into four classes : 1. mammals (suckling animals) ; 2. birds ; 3. reptiles ; 4. fish with a bony skeleton.

Some animals, chiefly birds, migrate to procure food and escape extremes of cold and heat ; swallows, geese, ducks, swans, go to the south of Europe in large numbers during our winter ; the buffalo on the American prairies migrates in the same manner.

Man.—Mankind have been divided into *five* races or *varieties*: the Circassian or Indo-European, the Mongolian, the Malayan, the Negro or Ethiopian, and the American.

The *Circassian* race has an oval face, an extended forehead, hair long, fine, and wavy, head with the upper and anterior portions large. To this race belong the Europeans, except the Lapps, Finns, and Hungarians; the nations north of Africa for the most part; the Asiatics from the south of the Caspian Sea to the Brahmapootra.

The Circassians of Europe are in three sub-families: the *Slavonians* (Russians, Poles, with the inhabitants of parts of Austria and Turkey); the *Teutonic* or *Gothic*, occupying the greater part of the British Isles, Scandinavia, Denmark, Germany, Prussia, Holland, Belgium, Switzerland, and parts of Austria; the *Celtic*, found in the north-west of Scotland, over a large part of Ireland and Wales, and mixed with the descendants of Roman and Gothic tribes over France, Italy, Spain, Portugal, and parts of Switzerland and Belgium.

The *Mongolian* race has high cheek bones, a broad skull, small black eyes obliquely set, wide mouth, thick lips, hair black, lank, and thin, skin olive-coloured. The Asiatics north and east from a line about the south of the Caspian Sea to the Brahmapootra, and the Laplanders, Finns, and Hungarians in Europe, the Greenlanders, Esquimaux, and others north of America, are of this race.

The *Malay* race resembles the Mongolian, being intermediate between that and the [negro. The inhabitants of this race occupy the Malay Peninsula and Indian Archipelago.

The *Negro* or *Ethiopian* race is marked by a black skin, black and woolly hair, low forehead slanting back, flat nose, thick lips. It occupies the greater part of Africa south of the Great Desert, Madagascar, Australia, and many of the Polynesian Isles.

The *American* race has a red or copper-coloured skin, generally regular features, a prominent and frequently aquiline nose, high and receding forehead. This race

includes the native tribes of America, now fast dying out, except the Esquimaux.

Recent writers make but three divisions of the human race, according to the shape of the skull.

1. Caucasian, *oval* or *elliptical* skull ; bearded type.
2. Mongols, *pyramidal* skull ; beardless type.
3. Negroes, *prognathous* skull (projecting lower jaw) ; woolly-haired type.

Supposing the number of the inhabitants on the earth to be 1,200 millions, it is computed that 550 millions are of the Mongolian race, 370 millions Caucasians, 240 millions Malays, 1 million American, and the remainder Negro. This, however, is, for the most part, nothing more than conjecture.

TABLE
OF THE
SITUATIONS, TERMINATIONS, AND APPROXIMATE LENGTHS
OF THE PRINCIPAL RIVERS IN THE WORLD.

EUROPE.

<i>Name.</i>	<i>Country.</i>	<i>Termination.</i>	<i>Length in miles.</i>
Volga,	Russia,	Caspian Sea,	2200
Danube,	Germany, Austria, Turkey,	Black Sea,	1700
Dnieper,	Russia,	Black Sea,	1200
Don,	Russia,	Sea of Azov,	1100
Rhine,	Switzerland, Germany,	German Ocean,	750
Dniester	Russia,	Black Sea,	550
Elbe,	Germany,	German Ocean,	700
Vistula,	Prussia and Poland,	Baltic Sea,	630
Tagus,	Spain and Portugal,	Atlantic,	510
Rhone,	Switzerland and France,	Mediterranean,	490
Po,	Italy,	Adriatic Sea,	450
Seine,	France,	English Channel,	440
Shannon,	Ireland,	Atlantic Ocean,	224
Severn,	England,	Bristol Channel,	224
Thames,	England,	German Ocean,	215
Tiber,	Italy,	Mediterranean,	215
Forth,	Scotland,	German Ocean,	115
Clyde,	Scotland,	Frith of Clyde,	100

ASIA.

<i>Name.</i>	<i>Country.</i>	<i>Termination.</i>	<i>Length in miles.</i>
Yang-tse-kiang,	China,	Pacific,	3200
Yenesel,	Siberia,	Arctic Ocean,	2900
Hoang-ho,	China,	Pacific,	2600
Obi and Irtish,	Siberia,	Arctic Ocean,	2500
Lena,	Siberia,	Arctic Ocean,	2400
Amoor or Sagh- alien,	Mongolia,	Channel of Tar- tary,	2300
Euphrates,	Turkey in Asia,	Persian Gulf,	1700
Indus,	Hindustan,	Indian Ocean,	1700
Ganges,	Hindustan,	Bay of Bengal,	1500
Oxus or Amoo,	Turkestan,	Sea of Aral,	1300
Irrawaddy,	Birmah,	Bay of Bengal,	1200
Ural,	Russia,	Caspian Sea,	1000
Tigris,	Turkey in Asia,	Euphrates,	800

AFRICA.

Nile,	Abyssinia, Nubia, and Egypt,	Mediterranean,	3000
Niger,	Nigritia,	Gulf of Guinea,	2300
Zaire or Congo,	Congo,	Atlantic,	1300
Orange or Ga- riep,	South Africa,	Atlantic,	1000
Zambezi,	Mozambique,	Indian Ocean,	1000

AMERICA.

Amazon or Mar- anon,	Brazil,	Atlantic,	4000
Mississippi,	United States,	Gulf of Mexico,	3200
Do.,	<i>From source of Missouri,</i>		4300
Parana and La Plata,	Brazil and La Plata,	Atlantic,	2300
St. Lawrence, (measured through the Lakes.)	Canada,	Gulf of St. Law- rence,	2000
Mackenzie,	British America,	Arctic Ocean,	1600
Orinoco,	Venezuela,	Atlantic Ocean,	1500
Rio del Norte,	Mexico,	Gulf of Mexico,	1400
Ohio,	United States,	Mississippi,	1000
Columbia,	United States,	Pacific,	1000
Hudson,	United States,	Atlantic,	325

PRINCIPAL MOUNTAINS OF THE WORLD WITH THEIR
APPROXIMATE HEIGHTS.

EUROPE.

<i>Mountains.</i>	<i>Situation.</i>	<i>Country.</i>	<i>Feet above sea level.</i>
Mont Blanc,	Alps,	Savoy,	15700
Melchaun,	Sierra Nevada,	Spain,	11070

<i>Mountains.</i>	<i>Situation.</i>	<i>Country</i>	<i>Feet above sea level.</i>
Maladella,	Pyrenees,	Spain,	11400
*Etna,		Sicily,	10900
Olympus,		Turkey,	9750
Mount Corno,	Apennines,	Italy,	9500
Sneehatten,	Dofrines,	Norway,	8000
Parnassus,		Greece,	8000
*Hecla,		Iceland,	5200
Ben Nevis,	Grampians,	Scotland,	4400
*Vesuvius,		Italy,	3900
Snowdon,		Wales,	3590
Carn Tual,	Magillicuddy's Reeks,	Ireland,	3414

ASIA.

Mount Everest,	Himalaya,	Hindustan,	29000
Kunchin-ginga,	Himalaya,	Hindustan,	28200
Elburz,	Caucasus,	Circassia,	21500
Hindoo-Koosh,		Cabul,	20000
Ararat,		Armenia,	17100
Mawna Koa,		Sandwich Islands,	13700
Hermion,	Lebanon,	Palestine,	10000
Sinal,		Arabia,	9300

AFRICA.

Jeb-Ahloor,		Eastern Africa,	16500
Mount Hentet,	Atlas Chain,	Morocco ,	15000
*Teneriffe,		Canaries,	12200
Table Moun- tain,		Cape Colony,	3600

AMERICA.

Aconcagua,	Andes,	Chili,	24000
Chimborazo,	Andes,	Ecuador,	21500
*Antisana,	Andes,	Ecuador,	19300
*Cotopaxi,	Andes,	Ecuador,	18900
Mount St. Elias,		North America,	18000
*Popocatepetl,		Mexico,	17700
Mt. St. Helen's,	Rocky Mountains,	United States,	15700
Blue Moun- tains,		Jamaica,	7300
Mount Wash- ington,	Alleghanies,	United States,	6700

REMARKABLE ELEVATIONS.**EASTERN HEMISPHERE.**

	<i>Feet.</i>
Ascent of Messrs. Glaisher and Coxwell, in 1862, . . .	30000
Ascent of Gay Lussac from Paris, in 1804, . . .	23000
Greatest height attained on the Himalaya by Dr. Gerard, . . .	20000
Convent of the Alps, St. Bernard, . . .	8200
City of Madrid, . . .	2200

WESTERN HEMISPHERE.

	<i>Feet.</i>
Greatest altitude attained by Humboldt (Andes),	19800
City of Potosi,	13350
Lake Titicaca,	12800
City of Mexico,	7476

LAKES AND THEIR AREAS.

EUROPE.

<i>Name.</i>	<i>Country.</i>	<i>Sq. miles.</i>
Ladoga,	Russia,	6300
Onega,	Russia,	3280
Wener,	Sweden,	2140
Geneva,	Switzerland,	380
Garda,	Italy,	183
Maggiore,	Italy,	152
Neagh,	Ireland,	150
Lomond,	Scotland,	43
Windermere,	England,	10

ASIA.

Caspian Sea (Salt),	140000
Sea of Aral (Salt),	26000
Baikal,	20000
Urumiah, in Persia (Salt),	1800
Dead Sea (Salt),	360
Sea of Galilee,	76

AFRICA.

Victoria Nyanza,	50000
Tanganyika,	30000
Chad,	15000
Nyassa,	6500

AMERICA.

<i>Name.</i>	<i>Sq. miles.</i>	<i>Name.</i>	<i>Sq. miles.</i>
Superior,	40,000	Great Bear Lake,	10,000
Huron,	30,000	Erie,	10,000
Michigan,	20,000	Athabaska,	3000
Great Slave Lake,	12,000	Titicaca,	3800

* * NOTE :—The areas of the American lakes have been variously estimated.

CLIMATE AND SEASONS.

<i>Name.</i>	<i>Latitude.</i>	<i>Mean Winter Temperature.</i>	<i>Mean Summer Temperature.</i>	<i>Mean Annual Temperature.</i>
Edinburgh,	55° 57'	38·5°	58°	47°
London,	51° 30'	39·5°	63°	51°
Dublin,	53° 23'	40°	60°	49°
Paris,	48° 50'	38°	64·5°	51°
Vienna,	48° 12'	32°	69°	51°
St. Petersburg,	59° 56'	18°	61°	39°
Rome,	41° 53'	44°	75°	59·5°
Moscow,	53° 45'	15° 20'	64°	40°
Geneva,	46° 12'	34°	70°	53°

ASIA.

Bagdad,	33° 19'	49·6°	93°	73°
Bombay,	18° 56'	77°	83°	81°
Calcutta,	22° 33'	72°	86°	82°
Canton,	23° 7'	54°	82°	69°
Pekin,	39° 54'	27°	81°	54°
Trincomalee,	8° 33'	77°	84°	80°
Jerusalem,	31° 47'	49·5°	74°	63°

AFRICA.

Cairo,	30° 2'	58°	85°	72°
Cape of Good Hope,	34° 11'	58°	74°	66°
Morocco,	31° 37'	59°	80°	68°
Timbuctoo,	16°	68°	83°	79°

AMERICA.

Melville Island,	74° 47'	28°	37°	1·2°
Quebec,	46° 49'	14°	68°	41°
New York,	40° 42'	30°	71°	51°
New Orleans,	29° 57'	55°	82°	69°
Rio Janeiro,	22° 54'	68°	79°	73°
Quebec,	46° 48'	14°	68°	42°
Philadelphia,	39° 57'	30°	71°	51°

Hobart Town,	42° 53'	42°	63°	52°
Sydney,	33° 51'	74°	55°	66°
Melbourne,	37° 58'	67°	48°	59°

Before introducing a map the teacher should carefully and clearly explain to the learners the four points of the compass, and should tell them that N. stands for north, N. W. for north-west, &c., &c.

EUROPE.

EUROPE, situated almost wholly within the N. temperate zone, extends from Cape Nordkyn in Norway to Cape Matapan in Greece, 2,400 miles; and from Cape St. Vincent in Portugal to the mouth of the Kara River in the N.E., 3,400 miles. Irrespective of islands, it lies between the parallels of $36^{\circ} 1'$ and $71^{\circ} 6'$ N. latitude, and between the meridians of $9\frac{1}{2}$ W. and $68\frac{1}{2}$ E. longitude. Its population is about 285 millions of inhabitants. It is bounded on the N. by the Arctic Ocean; on the S. by the Mediterranean Sea, the Sea of Marmora, the Black Sea, Sea of Azof, and the Caucasian Mountains; on the E. by Asia, from which it is separated by the Ural Mountains, Ural River, and Caspian Sea.

TABULAR VIEW OF THE EUROPEAN STATES.

States.	Area.	Population.	Capital.
British Isles (<i>k.</i>), . . .	122,000	31,817,108	London.
France (<i>r.</i>), . . .	211,850	37,000,000	Paris.
Spain (<i>k.</i>), . . .	182,760	16,302,000	Madrid.
Portugal (<i>k.</i>), . . .	36,510	3,585,000	Lisbon.
Italy (<i>k.</i>), . . .	112,500	24,000,000	Rome.
Greece (<i>k.</i>), . . .	19,950	1,332,500	Athens.
Turkey (<i>e.</i>), . . .	203,630	15,500,000	Constantinople.
Austria (<i>e.</i>), . . .	227,235	34,671,000	Vienna.
Germany (<i>e.</i>), . . .	243,000	40,000,000	Berlin.
Belgium (<i>k.</i>), . . .	11,315	4,893,000	Brussels.
Holland (<i>k.</i>), . . .	10,900	3,372,650	Amsterdam.
Denmark (<i>k.</i>), . . .	14,500	1,601,000	Copenhagen.
Sweden and Norway (<i>k.</i>), .	291,900	5,351,100	Stockholm.
Russia (<i>e.</i>), . . .	2,043,400	65,845,500	St. Petersburg.
Switzerland (<i>r.</i>), . . .	15,235	2,534,000	Berne.

(*k.*) Kingdom, (*r.*) Republic, (*e.*) Empire.

In addition to the above there are the following independent states: *Andorre* on S. side of the Pyrenees, about 37 miles long and 30 broad, with good plantations and iron mines. *San Marino*,

in the Apennines, with an area of 24 square miles and a population of 7,080. Several small states in the centre of Germany, though enjoying a nominal independence, are virtually subordinate to the will of the empire.

Surface.—Generally speaking Europe is mountainous and hilly in the N.W., the centre, and the S., and flat everywhere else. The *Great Plain*, occupying an area of about $2\frac{1}{2}$ millions of square miles, extends from the Ural Mountains on the E. to the Baltic, Black Sea, and including Belgium and Holland, and N. Germany, reaches across the N. of France almost to the Atlantic. "In this vast tract there are infertile sandy wastes, heaths, bogs, and marshes, primeval forests haunted by wild animals, pastures on which enormous numbers of cattle are reared, richly cultivated corn-bearing districts, and lands inhabited by nations of the highest degree of intelligence, while others are held by rude nomadic tribes."* The following smaller plains may also be enumerated: there are three plains, watered by the Danube—that of Bavaria on the Upper, the greater and less Hungarian plains on the Middle, and that of Wallachia and Bulgaria on the Lower Danube. The *Plain of Lombardy*, traversed by the Po, is 250 miles long, and about 50 broad, and is exceedingly productive. The great plain divides the European mountain system into two parts, the Scandinavian system N. of it, and the Alpine system S. of it.

Seas.—The principal seas of Europe are: the White Sea, N. of Russia, the Baltic, North Sea, Mediterranean, Archipelago, Marmora, Black Sea, Sea of Azof, the Irish Sea, the Skager Rack, and Cattegat.

The White Sea extends from $64\frac{1}{2}^{\circ}$ to $68\frac{1}{2}^{\circ}$ N. latitude, has an entrance 100 miles wide, penetrates deeply into the N. of Russia, and terminates in two large gulfs, that of Dwina and Onega. A third gulf, Kandalaska, runs westward. The water is deep, but fogs prevail, and the ice lasts about 8 months every year.

The Baltic, with an area of 160,000 square miles, is about 900 miles

long and 150 broad ; shallow on the S. As it receives $\frac{1}{2}$ of the drainage of Europe, and an immense quantity of water from the melted snow near its shores, its waters are very little salt. Its harbours in the winter months are shut up by ice ; its tide is insignificant, only rising 1 foot at Copenhagen, and rendering its harbours on S. very shallow.

The North Sea or German Ocean, connected with the Baltic by the Skager Rack, has an area of 140,000 square miles, and is 680 miles long and 400 broad. Immense quantities of sand drifted down by the rivers form shallow banks, which, with its foggy climate, render navigation difficult. The Dogger Bank, the best known of these, is a good fishing station, in the centre running 300 miles, with a width of 60 miles ; and, indeed, everywhere abundance of fish is found.

The Mediterranean, on the S. of Europe, occupies with its branches 1 million of square miles : an extent from Gibraltar to Syria of 2,000 miles ; but from Sicily to Africa of only 80 miles. The winds are very variable, and the gales and water spouts frequent. This sea is very deep ; tide only rises from 5 to 7 feet ; but its currents are strong, one constantly flowing from the Atlantic. Notwithstanding this circumstance, and its receiving so many large rivers, evaporation is capable of carrying off all its surplus waters. It is pretty certain also, that an under current enters the Atlantic.

Archipelago, called by the ancient Greeks and Romans the *Ægean Sea*, is studded with islands, which render navigation difficult, particularly in the winter. The water is very deep, from 150 to 200 fathoms within a mile of the shore. A current runs into it from the Dardanelles.

Black Sea, with an area of 180,000 miles, is more salt than the Baltic, almost free from islands, water deep, navigation good, storms, though violent, usually of short duration ; and it parts with its surplus waters, brought to it by many rivers, by the Straits of Constantinople.

The Sea of Azof or Azov, a close sea, united to the above by a narrow strait 10 miles long, is 200 miles long, with a varying breadth ; has an area of 14,000 square miles, and a depth of only 5 to 8 fathoms. Its waters are sometimes brackish, when the wind propels some of the water of the Black Sea into it, but never salt.

The Irish Sea, lying between England, Ireland, and Scotland, will be mentioned under the British Isles ; and the Skager Rack and Cattegat under Denmark.

Islands.—The chief are : Nova Zembla, Spitzbergen, and Vaigatz, N. of Russia ; the Loffoden Isles, N.W. of Norway ; Zealand, Funen, Langeland, Aland, Oland, and Gothland in the Baltic ; Iceland, the Farøe, and British

Isles in the Atlantic. The Balearic Islands, Sardinia, Corsica, Elba, and Malta in the Mediterranean. The Ionian Isles, W. of Greece, Negropont, and many others on the E. of Greece.

Peninsulas.—The chief *peninsulas* are: Norway and Sweden, Jutland, Spain and Portugal, Italy, the Morea, and the Crimea.

Isthmuses.—The principal are: the Isthmus of Corinth in Greece, and Perekop in S. Russia.

Capes.—The chief capes are: The *N. Cape* on the Isle of Mageröe, *Nordkyn* in Finland, the *Naze* S. of Norway, the *Skaw* N. of Denmark, Cape *Wrath* N. of Scotland, the *Land's End* in S.W. of England, *Malin Head* N. of Ireland, Cape *La Hogue* N. of France, *Ortegal* and *Finisterre* in the N.W. of Spain, Cape *St. Vincent* in Portugal, *Trafalgar* and *Palos* in Spain, *Passaro* in Sicily, *Spartivento* and *Otranto* in Italy, *Matapan* and *Angelo* in Greece.

Gulfs.—The Gulf of Venice, Genoa, Lyons, Taranto, Squillace, and Lepanto, in the Mediterranean; and the Gulf of Bothnia, Finland, and Riga, in the Baltic.

Bay.—The Bay of Biscay on the W. of France is the only one of importance.

Straits.—The *Sound* between Sweden and the island of Zealand, the *Great Belt* between this isle and that of Funen, the *Little Belt* between Funen and Denmark proper; *Dover*, between the North Sea and English Channel; Gibraltar, South of Spain; *Bonifacio*, *Messina*, *Otranto*, *Dardanelles*, *Bosphorus*, and *Yenikale*, in the Mediterranean and its branches.

Mountains.—The principal mountains are: the *Alps* in Italy, Switzerland, France, and S. Germany; the *Apennines*, which run down Italy; the *Pyrenees*, separating France from Spain; the *Balkan Mountains* in Turkey; the *Carpathian Mountains* in Austria; the *Erz* and *Sudetic* in Central Germany; the *Dofrine* or *Dofrefeld* Mountains, between Norway and Sweden; the *Ural Mountains* E. and the *Caucasian Mountains* S. of Russia.

The Alps may be said to commence at the Gulf of Genoa, and presenting a concave line towards Italy, form many groups and off-shoots in Switzerland and the Tyrol; and are conveniently arranged under six different names. They lie between 44° and 48° N. latitude, and between $6^{\circ} 40'$ and 18° E. longitude, covering an area of about 90,000 square miles, and, generally speaking, slope much more on the northern than on the southern side. 1. The *Maritime*, running from the gulf just named into the S.E. of France, and after about 100 miles, terminating in Mount Viso, one of the most splendid mountains in the group. 2. The *Cottian*, running from Mount Viso (13,599 feet) to Mount C  nis (about 60 miles), which is now crossed by a railway. 3. The *Graian Alps*, separating Savoy from Piedmont, running about 60 miles, and including Mount C  nis (11,455 feet), over which, in 1803, Napoleon I. commenced the well-known carriage road. 4. The *Pennine*, running about 60 miles from Mont Blanc to the Simplon, between Lombardy and the Rhone, and including the three loftiest peaks in Europe, Mont Blanc, 15,777 feet high, Monte Rosa, 15,206, and Mont Cervin, 14,836 feet. 5. The *Helvetian* or *Lepontian*, running from the Simplon to Mount St. Gothard, a distance of some 60 miles. Among the rivers rising in St. Gothard are the Rhine, the Rhone, and the Reuss. 6. The *R  tian*, running E. from this mountain about 80 miles, and crossed by several passes. In addition, the *Bernese*, between the Rhone and the Aar. Among the chains that run E. are the *Noric* between the Danube and Drave, the *Carnic* between the Drave and the Save, and the *Julian* and *Dinaric* between this river and the Adriatic.

Vegetation.—At the foot of Mont Blanc, the mean annual temperature is 53° while at 6,695 feet it is at freezing point. Of course on the south side, directly opposite to the sun's rays, plants are found at a greater elevation than similar ones on the north side. For a height of 1,900 feet on the south slope to 2,500 on the north, the vine, maize, and chestnut abound. Beech and oak extend to 4,000 feet on the north, to 4,300 on the south, and other trees reach from 6,000 to 7,000 feet. Mountain pastures reach from 5,000 to 8,000 feet, where dairy farming is carried on. Of course these elevations vary considerably with the position and shape of the mountain. Eagles, hawks, owls, wolves, bears, lynxes, and wild cats are found among the lofty peaks. Precious stones and most minerals are found in the district of the Alps.

Passes of the Alps.—The following are the most important passes of the Alps:—

	Feet.
1. The Great St. Bernard, from Lower Valais to Piedmont,	8,183
2. The Matterhorn, from Zermatt, over Cervin, to Piedmont,	11,000
3. The Simplon, over this mountain from Upper Valais to Lombardy,	6,592

4. The St. Gothard, from Altorf to Bellinzona, on the Ticino,	7,078
5. The Splugen. from the Grisons to Lombardy, - - -	6,939
6. The Gemmi, over the Bernese Alps, - - -	7,594
7. The Grimsel, over same chain, - - -	7,126

The Apennines may be considered as a continuation of the Alps, taking their origin due north of Genoa, and extending through the entire length of Italy, their summits covered with smooth rounded, bare rocks, until they terminate after a course of 850 miles at Cape Leuca. Their highest peaks are Monte Corno, 9,521 feet, Monte Velino, 8,138 feet, and Monte Vetora, 8,135 feet, all during the greater part of the year being covered with snow; and the vegetation being very similar to that of the Alps.

The Pyrenees, forming the boundary between France and Spain, extend 270 miles, with a breadth varying from 30 to 60 miles, a gradual slope towards the former, and steep and precipitous towards the latter. They attain an elevation of 11,168 feet in Mount Maledetta. Though some of the summits towards the east extend into perpetual snow, the glaciers are few and small, and all on the north side.

The Balkan or Hæmus, forming the southern boundary of the basin of the Danube, are properly a continuation of the Dinaric Alps, and terminate in Cape Emineh on the Black Sea, after throwing out several spurs into Servia and Bulgaria, and rising in the west to 9,700 feet. Craggy tops and steep and well-wooded slopes distinguish this range. It is crossed by six passes, the three most important of which are defended by the fortresses Shumla and Sophia, where the mountain is of least elevation. The connection between this range and the Carpathian, at a gorge in the Danube, is called the Iron Gate.

The Carpathian Mountains, separated from the Sudetic range by the valley of the March, and from the Balkan mountains by the valley of the Danube, run 800 miles from Presburg in a semicircular course to Orsova, both on the Danube. The lower parts of this range are nicely wooded. Their highest peak is Ruska Poyano, rising 9,912 feet.

The Erz mountains, abounding in mineral riches, separate Saxony from Bohemia, and throw out spurs in different directions. The mountain slopes, which are more gradual towards the north and abrupt towards the south, are well-wooded, and in many places present picturesque scenery.

The chain of mountains running from N. Cape down the Scandinavian peninsula, extends about 920 miles, is called in the centre *Dovre feld*, which contains the highest peak, Snæ Hatten, 8,102 feet; in the north, *Koelin*, not so elevated; and in the south, the *Thulian*, generally increasing in elevation northward. On the top of the latter are many flats or table-lands—a remarkable feature.

The Ural extend from the sea of Kara, latitude 70°, to the middle of the Ural river, latitude 50° north, being 1,330 miles in length,

varying in breadth from 16 to 65 miles. In the north they rise only 3,000 feet, and divide the basin of the Obi from that of the Petchora. In the middle, where the mineral riches abound, are the highest elevations. In the south, two chains run east of the river Ural and become lost in the deserts north of the Caspian; a third takes the west bank of the river. Gold is found on both slopes; platinum, copper, iron, coal, and precious stones are also found; mining forming an important industry.

The **Caucasus**, running from the Black to the Caspian Sea, about 750 miles, consists in the central and higher part of parallel ranges connected by plateaux, traversed by deep fissures. Near the centre is **Elburz**, 18,000 feet high, and **Kasbeck**, about 16,000 feet. Here the snow-line touches the south side, 10,000 feet high, and the north side 11,000 feet. Some parts are well wooded, particularly the low ranges near the Black Sea, where bears, wolves, and jackalls are found. Grain is produced on the slopes, and tobacco, cotton, and indigo at the base. Vines grow on the south, where a beautiful climate exists.

Table-lands.—The only real plateau in Europe is in central Spain, extending over 100,000 square miles, and varying from 2,000 to 3,000 feet in height.

Rivers.—Generally the rivers of Europe either flow towards the S.E. or N.W. The principal rivers are: The *Ural* and *Volga* flowing into the Caspian Sea, the *Don* into the Sea of Azof, the *Dnieper*, *Dniester*, and *Danube*, into the Black Sea; the *Adige* and *Po* into the Gulf of Venice; the *Tiber*, *Rhone* and *Ebro*, into the Mediterranean; the *Tagus* into the Atlantic; the *Garonne* and *Loire* into the Bay of Biscay; the *Seine* into the English Channel; the *Rhine*, *Weser*, and *Elbe* into the North Sea; the *Oder*, *Vistula*, *Memel*, and *Duna* into the Baltic; the *Onega* and *N. Dwina* into the White Sea; the *Thames*, *Shannon*, and *Clyde* in the British Isles.

The **Ural** rises in the southern section of the Ural mountains, flows south over hilly meadows, bends at the town of Orsk, to the west, and afterwards runs nearly south to the Caspian Sea, after a course of 550 miles. Sandbanks render it unnavigable, but its fisheries are very important. The towns on this river are Orenburg and Uralsk.

The **Volga**, which rises at the base of the Valdai Hills, one of the great watersheds of the Russian Empire (the other being the Ural range), flows for a considerable distance in a north-easterly direction,

when it turns towards the south and receives the *Oka*, a river running in an easterly direction, through central Russia, S. of Moscow, with a very winding course. It runs E. to the town of Kasan, where it turns S., and soon receives the *Kama*, a very considerable river, which rises in the Ural Mountains, and is increased by many tributaries and streams. The Volga continues its southward course, and, forming a delta, discharges by several mouths into the Caspian Sea. In the upper part of its course it drains a fertile and productive country ; but in the latter part it passes through the district of the "steppes," which in some places are barren, but in others are fertile and productive. This river opens up the centre of the great Russian Empire to commerce, and by its numerous tributaries and streams tends to the development of trade. Ice in winter obstructs the navigation, but intercourse is effectually carried on by sledges, which proceed at great velocity over the frozen highway. Towards the mouth of the river "sturgeon fisheries" afford a remunerative employment, the centre of this industry being Astrakhan, the chief river port. The towns on its banks are :—Tver, Yaroslav, Kostroma, Nijni Novgorod, Kasan, Samara, Saratov, and Astrakhan.

The Don, which rises near Tula, in the great European plain, flows south, and is joined by the *Voroona* (a considerable river) and some smaller streams. It then makes a circuit, approaching close to the Volga, with which it is connected by a canal ; but suddenly turning towards the S.W. pursues nearly a direct course to the Sea of Azov. The basin of this river is one of the chief grain districts of Russia ; and the surplus stock, which is large, is exported from Taganrog and adjacent ports. There are also valuable sturgeon fisheries near the river's mouth ; but the chief trade of the district is grain. A large quantity of mud and sand is carried down the stream, which greatly obstructs navigation. The most important tributary is the *Donetz*, which joins it on the W. The towns on its banks are Toula, Tcherkask, Taganrog, and Azov.

The Dnieper, rising in swampy forests near Smolensk, runs south to Kiev, turns south-east, and again sweeps to the south-west, and enters the Black Sea, at Kherson (by a noble estuary, after a course of 1,200 miles), which is its chief port. At first its course is sluggish, but afterwards it flows over rocks, several rapids being formed, which for 100 miles below Kiev interrupt navigation. Sturgeon, pike, and other fish are plentiful. By means of a canal this river is connected with the *Dwina*. The most important tributaries are the *Pripet*, *Beresina*, and the *Desna*.

The Dniester, rising in a small lake on the slope of the Carpathian mountains in Galicia, is navigable to Haliez, has a rapid current, receives numerous tributaries on both sides ; and after passing Mohilev,

Dubossari, and Bender, enters the Black Sea after a course of 550 miles. Immense quantities of grain are brought down the stream, which has some falls and whirlpools that interrupt navigation.

The Danube is the second largest river in Europe, the first being the Volga, it rises in the mountain-land of Switzerland, and shortly after it leaves the country of its birth behind, it is augmented by the *Inn*, when it flows through Upper and Lower Austria, Hungary, and Turkey, and falls into the Black Sea by many mouths. It receives in its course through Hungary, the *March*, the *Waag*, the *Gran*, the *Theiss*, which latter river receives also three tributaries—viz., Samos, Koros, and Maros. The Danube also receives the *Drave*, *Save*, *Morava* on the south side, and the *Aluta*, *Sereth*, and *Pruth* on the north. This river drains a vast tract of country, and bears on its sluggish bosom the productions of the inland states through which it passes. On its banks the Christian and Mussulman often met in mortal combat, each contending for the supremacy with all that ardour and hatred of each other which characterises the struggles of religion *versus* fanaticism. The Danube vastly increases the wealth of the region which it drains; it not only fertilizes the soil, but, what is equally beneficial, it establishes communication and transits to remote states, by this means developing the resources of the whole basin, thereby adding to the wealth and prosperity of the districts. The towns on its banks are, Ulm, Ratisbon, Linz, Vienna, Presburg, Buda-Pesth, Peterwardein, Belgrade, Widin, Rustchuk, Silistria, Galatz, and Ismail.

The Adige, rising in the Rhaetian Alps, flows east into the Tyrol, turning south passes Botzen, Trent, and Verona, and enters the Adriatic south of Venice. It is very rapid and subject to inundations. It is 250 miles long, and navigable to Trent.

The Po, rising in Monte Viso, close to the French frontier, flows east for about 20 miles, when it enters the plain, passes Turin, Pavia, Piacenza, and Cremona, and within about 50 miles of the sea begins to form its delta. It drains an area of 40,000 square miles, and is 450 miles long, and enters the Adriatic by several mouths.

The Tiber, rising in a wood of beech trees in the Tuscan Apennines, runs to a great extent in a zigzag course 210 miles; passing Perugia and Rome, enters the sea at Ostia by means of two mouths. It is subject to overflowings, being fed by mountain streams.

The Rhone, rising under an ice-field in Switzerland, within 4 miles of the source of the Rhine, at an elevation of 5,806 feet, runs rapidly through the Canton of Valais, passes Martigny, bends to the N. W., enters Lake Geneva in a clear stream. Leaving the lake it strikes against the Jura mountains, flows to Lyons, where its rapid current is joined by the Saone, a gently-flowing stream. It flows S., passes

Vienne, Valence, Avignon, Beaucaire, and Arles, carrying with it immense quantities of earth, and enters the sea by two arms. The Saone is connected by canals with the Rhine, Seine Loire, and the Bay of Biscay. Its remaining tributaries are the *Ain*, *Doubs*, *Gard*, *Isère*, and *Durance*.

The Ebro, rising in the province of Santander in Spain, flows S. E. for 25 miles, turns E., passes Frias, Miranda, Tudela, Saragosa, Tortosa, and enters the Mediterranean after a course of 350 miles.

The Tagus, the principal river of Spain, rises in the Sierra Toledo, and some branches of it in the Santellanos Mountains; it waters the district lying between these two ranges and discharges into the Atlantic at the Rock of Lisbon. The country on each side of this river is fertile; and on its banks grow the orange and citron trees, the olive and the mulberry; but the country, although so favoured by nature, is not prosperous, owing to the indolence of the people and the neglect of the government. The Tagus is navigable for a considerable length, and it forms a sort of estuary at the mouth so deep and spacious that fleets of any size can ride in it with safety. It is a favourite station for our navy, and a place of refit for our mercantile marine. On its banks are Lisbon, Abrantes, Talavera, and Toledo.

The Garonne, rising near Mount Maladetta in the Pyrenees, becomes navigable at Cazères, passes Toulouse, turns N. W., passes Verdun, and being joined by the Dordogne, now under the name of Gironde, enters the Bay of Biscay 60 miles below Bordeaux. The basin of this river extends from the Pyrenees to the Cevennes. A bore sometimes is felt in it 40 or 50 miles from the sea.

The Loire, rising in the Cévennes, about 4,500 feet above sea level, forms a great outlet for the products of western and central France. It is 600 miles long, of which it is navigable 500; and has a basin 50,000 square miles in extent.

The Seine rises in the Plateau of Langres, and flows in a north-westerly direction through the wine-producing district of Champagne. It receives the *Yonne*, *Marne*, and some smaller rivers, and after passing Paris, Versailles, Elbouf, and Rouen, it flows into the English Channel. Its course is serpentine throughout, but this feature is particularly remarkable between Paris and the sea. At its mouth it expands into an estuary, and forms a fine harbour for vessels of the largest tonnage. Havre is the river port, but large ships can proceed to Rouen, whence merchandise is taken, either by small steamer or by train, to Paris.

The Rhine, although not the largest, is, if we may use the expression, the most attractive of European rivers. It rises in Switzerland, and after passing through Lake Constance forms the beautiful and celebrated Falls of Schaffhausen. It now serves as the boun-

dary between Switzerland and Baden, and at Basle takes a northerly direction, when for some distance it is the boundary between Baden and France. North of Baden it becomes wholly a German river, flowing through the fertile and wine-producing valley of Rhenish Prussia. It now enters Holland, and discharges into the North Sea after a course of 760 miles. The Rhine receives on its western side the *Meuse*, *Moselle*, and *Aar*; and on the eastern the *Necker* and *Main*. From the earliest ages the Rhine has been celebrated for its scenery, for its variety, and for the wealth and magnificence of its cities. The scenery of its upper course is romantic and bold; mountain, waterfall, and cataract, toned down in some spots by the softer touches of Nature's hand lend their enchantment to the view, and form a whole such as is not surpassed in any portion of the European continent. The lower course of the Rhine, especially through Holland, is sluggish and uninteresting, and the country is preserved from inundation by artificial dykes, which sometimes burst, inundating the surrounding country. The Rhine is navigable for a considerable distance, and its chief port is Rotterdam, though not on the main stream. The towns on its banks, are, Chur, Constance, Schaffhausen, Bâle, Strasburg, Carlsruhe, Spires, Mannheim, Worms, Menz, Coblenz, Cologne, Düsseldorf, Wesel, Cleves, Arnheim, Utrecht, and Leyden.

The Elbe rises in the Riesen mountains on the N. E. border of Bohemia, drains a basin of 58,800 square miles, and has an average depth of ten feet. On leaving Bohemia, where it receives the Moldau, it is 350 feet wide. It passes in Saxony, Pirna, Dresden, and Meissen, enters Prussia, passes Mühlberg, Torgau, Wittenberg, Magdeburg, Hamburg, and Cuxhaven, where it enters the sea in an estuary 10 miles wide. Its navigation is now very active, and steamboats ply between the large towns. The tributaries on the west are the *Moldau*, *Mulde*, and the *Saale*, on the east the *Elster* and the *Havel*.

The Weser is formed by the junction, on the frontiers of Hanover, of the *Werra* and *Fulda*, the former rising in central Germany about 50½° N. latitude, and the latter rising in Bavaria. The Weser passes through Hanover with a winding course—the towns on its banks being Münden, Carlshaven, Minden, Bremen, and Bremer-hafen; and its most important tributary is the *Aller*. Its length is 250 miles.

The Oder rises in Moravia, passes Breslau, Glogau, and Frankfort, and enters the Baltic at Stettin, after a sluggish course.

The Vistula, rising in the Carpathian Mountains, near the Jabluika pass, flows N., passes Cracow, runs N.E. into Poland, varies its direction, passes Warsaw, enters Prussia, passes Thorn, and before entering the sea divides into two parts—the smaller, called the *Nogat*,

flows into the Frische-haff by 20 mouths near Elbing. The main stream or western branch also separates into two parts, one falling into the Frische-haff, the other enters the Baltic, near Dantzic. The river is navigable for barges to Cracow; and corn and timber from the interior are conveyed to the Baltic. This river flows through a level country; no hill, nor scarcely a knoll do we see; nothing to obstruct the view but the distant horizon. Timber covers a great portion of the country through which it passes, and this along with grain, also a production of the district, is exported in large quantities from Dantzic and Elbing, the river ports. Amber, a fossil resin, is also found near its mouth and on the adjacent shores of the Baltic. The *Bug* is its most important tributary.

The *Niemen* or *Memel* rises in the W. of Russia, passes Grodno, Tilsit, and enters the Baltic near Memel. Very destructive inundations occur in this river.

The *Duna* or *Dwina*, rising near the source of the Volga, passes Disna, Drissa, Dunaburg, and Riga, and falls into the Gulf of Riga: owing to sand-banks its navigation is difficult; many rafts of timber are floated down the stream. The *Berezina* canal connects it with the *Dnieper*, thus forming water communication between the Black and Baltic seas.

The *Onega*, rising in Lake Latcha, runs nearly parallel with the N. *Dwina*, falls into the White Sea at the town Onega.

The N. *Dwina*, formed of two streams, the *Luchona*, 300 miles, and the *Jug*, 200 miles long, has a basin of 124,000 square miles, and enters the White Sea after a course of 700 miles. It is a splendid fish river.

Lakes.—The principal Lakes are:—*Geneva*, *Lucerne*, *Neuchâtel*, and *Constance* in Switzerland; Lakes *Maggiore*, *Garda*, *Como*, and *Lugano* in Italy; Lakes *Neusiedler-see* and *Platten-see* in Austria; lakes *Wener*, *Wettern*, and *Malar*, in Sweden; lakes *Ladoga*, *Onega*, *Peipus*, *Enare*, *Saima*, *Ilmen* in Russia.

Geneva, area 382 square miles, 1,230 feet above sea level, depth 980 feet, lies in the form of a crescent in the south-west of Switzerland, has a breadth of from 3 to 10 miles, and an extreme length of 45 miles. It is surrounded by the most sublime scenery, being shut in by lofty mountains.

Lucerne, a large basin of water 25 miles long, and 9 broad, with a varying depth from 300 to 900 feet, is surrounded by magnificent scenery, and is traversed by steam-boats.

Neuchâtel, area 90 square miles, depth from 400 to 500 feet, is 1,420 feet above sea level, lies on the west side of Switzerland.

Constance, area 228 square miles, depth 965 feet (but average depth 320 feet), is 1,250 feet above sea level, partly in Switzerland and partly in Baden. Its waters sometimes rise several feet in an hour. Waterfowl and fish are plentiful.

Maggiore, area 150 square miles, is the deepest lake in Europe (2,000 feet), 675 feet above sea level, 42 miles long, only 8 miles broad. Its centre has a group of beautiful islands, and abounds with fish; climate cool, and in summer much subject to thunderstorms.

Garda, area 183 square miles, 320 feet above sea level, 600 feet deep, is 30 miles long, breadth from 11 miles in the south to 3 in the north. Fish of great variety abound; and in summer the melting of the snow raises the surface waters 3 or 4 feet.

Como, area 66 square miles, 585 feet above sea level, is 40 miles long, and 1,800 feet deep.

Lugano, area, 800 square miles, partly in Switzerland, is about 20 miles long and one broad, 500 feet deep; is surrounded by rugged scenery; and empties its surplus waters into Maggiore.

Neusiedler See, with an area of 120 square miles, is 23 miles long and 7 miles wide; very shallow.

Platten See, area 420 square miles, is very shallow, only from 30 to 40 feet deep, it is 48 miles long, and from 3 to 10 wide, with slightly brackish water.

Wener, area 2,140 square miles, depth 280 feet, is the third largest European lake, is 112 miles long and 15 to 30 broad, and discharges its waters by the River Gota. Fish are abundant.

Wettern, area 840 square miles, 300 feet above sea level, is connected with the former by a canal, but sends its surplus waters into the Baltic. It is 70 miles long, 13 wide, and 370 feet deep. Several small islands are in it.

Malar, area 760 square miles, is very irregular in shape, and crowded by numerous islands. It is 70 miles long.

Ladoga, the largest lake in Europe, has an area of 6,300 square miles, is 120 miles long, and 70 miles wide at its widest part. Its shores are low, and its extreme depth 900 feet.

Onega, area 3,280 square miles, is 120 miles long, with an average width of 40 miles, with many rocky islets along the shores. Its waters are brought to Lake Ladoga by the River Swir, which is 120 miles long.

Peipus, area 1,250 square miles, is 90 miles long.

Enare, area 1,000 square miles, discharges its waters into the Arctic Ocean.

Saima, area 2,000 square miles, is 180 miles long and 22 wide, and abounds with islands.

Ilmen, area 390 square miles, is 100 feet above sea level.

Climate.—The climate of Europe, generally speaking, is not so extreme as that of the other continents, at the same time the E. of Europe is subject to great extremes of heat and cold. The temperature of the east of America in some places is 10° colder than in same latitude on W. side of Europe. Europe may be divided into three climatic zones: (1) The *Northern*, lying N. of the parallel of 55° , in which the winter lasts nearly nine months, summer the remainder, with a few days of spring and autumn between: the winter, severe and boisterous; in the summer the heat is great, and vegetation rapid. (2) The *Central*, from 45° to 55° , has the four seasons distinctly marked with a gradual passage from one to the other, winter longer than summer, and from W. to E. its intensity increases. (3) The *Southern*, S. of the parallel of 45° , has very little snow, long droughts, and great heat in summer.

The rainfall decreases towards the E. On the coast of Portugal the annual fall is more than 100 inches, and only 15 in the E. of Russia. The most rainy part of Europe is Coimbra, where more than 200 inches is the average annual rainfall. In the S. the rain generally falls in winter; in the W. and N.W. in autumn; in the E. and central countries in the summer.

Inhabitants.—With the exception of a few tribes at the extreme N., and the Magyars of Hungary, all the inhabitants of Europe belong to the Caucasian race. In reference to their language this race is divided into three great branches: those whose languages are in a great measure derived from the Latin, such as the French, Spanish, Italian, and Portuguese; secondly, the Teutonic, which includes most of the British Isles, Norway, Sweden, Denmark, the Netherlands, and Germany; thirdly, the Slavonian race, represented by the dialects of Russia, Poland, much of Austria, and some provinces in Turkey. The population is densest in Belgium, England, and Holland.

Religion.—The principal creeds of Europe are three—Roman Catholic in the S.W.; Greek Church in the E.; and Protestant in the middle and N. The countries in which very little mixture is found are, Spain, Portugal, and Italy, being almost exclusively Roman Catholic; Norway and Sweden and England almost exclusively Protestant; Russia contains about 8 millions Roman Catholics, 4 millions Protestants, and $2\frac{1}{2}$ millions Mahommedans, $1\frac{1}{2}$ million Jews, and 1 million Armenians. All the remaining countries are mixed.

Education.—Europe contains many splendid universities, several existing in each of the most important countries. Prussia, where attendance at school is compulsory, is the best educated country. Great improvements have lately been made in many of the states of Europe in regard to education, among which may be named the admirable system now in use in England and Wales. The excellent system of education in operation in Ireland has been one of the most successful; and the open competitive examination system has incontestably proved that the peasant class in Ireland is much more capable of passing a severe literary examination than the corresponding class in England or Scotland.

Industries.—The prevailing industry in most countries of Europe is of course agriculture, chiefly consisting in tillage, cattle-rearing, dairy-farming. *Mining* forms an important industry in Great Britain, Belgium, E. France, Hungary, and Sweden. *Manufactures* of coarse woollens for home use are carried on in all countries; *linens* in France, the Low Countries, British Isles, Hanover, and Moravia; *iron* goods in the British Isles and Belgium; *cordage* and *sailcloth* in all large seaports; *beer* in most countries, but particularly in Bavaria, British Isles, and the city of Strasburg; *grain* is largely exported from the countries bordering on the S. of the Baltic and from S. Russia; *olive oil* from N. Italy; *wine* forms an important industry in France and Spain; *dried fruits* in Greece, Spain, and Portugal, and other places.

Animals.—The progress of civilization and the increase of population have rendered many species of animals, which were once numerous, to be at present extinct. The *horse* was fleetest and best in Spain, having been introduced by the Arabs; but the breed has degenerated. The heaviest horses are found on the shores of the North Sea, and Holland and Switzerland also have splendid draft horses. Corsica has the smallest horses, the N. of Sweden the largest, England the nicest and swiftest. The *mule* is used in hilly countries, particularly Spain; and the *ass*, though much used in Ireland and many other countries, is biggest in Spain and Malta. The *sheep*, of which there are many varieties, is everywhere. The *goat* is in mountainous districts; the *hog* is used extensively for food, except in Turkey; the *reindeer* is found in Lapland; the *dog* is everywhere.

Of Wild Animals, two species of bear are found; the brown bear of the mountains of Southern Europe, and the polar bear of N. Europe. The lynx and wolf, wild cat, fox, and otter are also found in many countries. Of the *rodentia* we have beavers, squirrels, marmots, rats, and mice. Monkeys are found wild on the rock of Gibraltar.

Fish.—Every variety, including whales and seals, is found in the European seas.

Birds.—Of these more than 400 species are permanent residents, and many more occasional visitants. In the N. waders and swimmers are most plentiful. Though European birds have not the brilliant plumage of those of Asia and Africa, yet they greatly excel them in their melodies. The nightingale, the best songster in the world, is plentiful in Europe.

Minerals.—Very little gold, silver, or precious stones exist in Europe, but abundance of iron, coal, and other useful metals is found. *Iron* is found in the British Isles, Belgium, France, Russia, Germany, Sweden, Italy, Spain, and Austria. *Coal* is found in the three first-named countries, also in Hungary, Sweden, and Germany. *Quicksilver* is found in S. W. of Austria, in Spain, and in Bavaria. *Copper* is found in British Isles, Russia, Hungary, Sweden, and Norway, Turkey, Germany, and Spain. *Lead* is found in Spain, British Isles, Austria, France, and Norway. *tin* in England, Saxony, and Spain: *zinc* in Great Britain, Belgium, and Germany. *Salt* is found in Russia, Austria, France, Spain, Portugal, British Isles, Italy, Greece, and Sweden. England produces ten times as much coal as both Belgium and France, the next most productive countries.

Vegetables.—The vegetation of Europe has been almost sufficiently described. In the south the vegetation resembles that of Africa, producing the vine, the date, the prickly pear, castor oil plant, rice, cotton, sugar cane, maize, fig, olive, and orange. Almost all these either disappear or are only found in a languishing state at about the parallel of 43°; then comes the vine, which more northward is followed by wheat and other grain, the hardy trees, such as oak and birch, with rich grazing pastures, which are almost unknown in southern Europe. In the extreme N. vegetation ceases, and the ground is covered with perpetual congelation.

THE UNITED KINGDOM

OF

GREAT BRITAIN AND IRELAND.

THE UNITED KINGDOM consists of Great Britain, Ireland, and the numerous islands around the coast, being separated from the Continent of Europe by the North Sea and British Channel. The distance from Dover to Cape *Griznez* on the opposite coast of France is only 19 miles ; from the coast of Norfolk to Holland about 90 miles ; and from Peterhead to the *Naze* in Norway about 300 miles. The most northerly point is one of the Shetland Isles, latitude $60^{\circ} 49'$; the most southerly, the Scilly Isles, latitude $49^{\circ} 53'$; the most easterly, Lowestoft Ness, in Suffolk, longitude $1^{\circ} 46'$ E ; the most westerly, one of the Blasquet Isles off the coast of Kerry, $10\frac{1}{2}^{\circ}$ west.

These islands constitute by far the most commercial, most enterprising, most wealthy, and most civilized empire in the world. Our flag floats in every sea, bearing to the most distant lands the productions of our "sons of toil," and returning with the bounteous products with which nature has crowned more sunny climes. The surrounding seas give us not only security from a foreign enemy, but moderate our climate, afford an important source of industry to many of those who live near the coast in supplying fish to the great towns, and form a great highway, so necessary for an eminently commercial nation. Owing to our climate being mild, our soil fertile and productive, our harbours commodious and spacious, our rivers navigable, our canals and railways numerous and admirably constructed, we have a country especially suited for the habitation of an enterprising, and, above all, a commercial people. Our minerals

are superior to those of any other country; abundance of coal* and iron, tin and lead, silver and copper, is found.

The industrial occupations of the people of the British Isles are more varied and valuable than those of any other European state.

Agriculture is the prevailing industry. It is computed four-fifths of England is arable land, three-fourths of Ireland and Wales, and one-third of Scotland.

Every year we largely import bread stuffs from America, South Russia, North Germany, and other places.

Of our three great *manufactures*, cotton, wool, and iron, we import the raw material of the first two:—cotton from the United States, Egypt, India, and Brazil; wool from Australia, Cape Colony, Spain, Germany. Most of our iron is obtained from the three great seats, Merthyr Tydvil, Wolverhampton, and Rotherham.

There is neither beginning nor end to our *Commerce*. It is usually divided into the *Home* and *Foreign* trade—the former consisting in transporting the products of one portion of the United Kingdom to another; for instance, the cattle and provisions of Connaught are sent to Birmingham, and the pots and other iron ware from the latter place to the former. In the Foreign trade, of which the greater part is with our colonies, British ships are found on every sea.

There is a tendency of the population to constant shifting, and gradually to become concentrated in those districts where manufacturing, mining, or mercantile industries, are most actively carried on. Agricultural industry does not tend so much to increase the population in particular districts; but where any two or more of the above-mentioned industries flourish in a particular district, an extraordinary increase of population takes place. Thus, while, during the last ten years, many towns in agricultural districts have remained stationary in population, and some even have retrograded, we find towns in the coal and iron districts with

* Coal constitutes our most important mineral wealth, affording an inexhaustible supply of fuel, and steam-power without limit.

an enormous increase: some have even doubled the population of 1861. With an increase of one industry there must inevitably be a corresponding increase in one or more others. Thus, nothing has conduced so much to stimulate and increase our commerce as the enormous growth of our manufactures.

The population of the British Isles in 1871 is given below; the area is about 122,000 square miles.

United Kingdom.	Population, 1871	Area in Acres.
ENGLAND, - -	21,487,688	32,590,397
WALES, - -	1,216,420	4,734,486
SCOTLAND, - -	3,358,613	19,638,377
IRELAND, - -	5,402,759	20,322,641
ISLE OF MAN, -	53,867	180,000
CHANNEL ISLES, -	90,563	46,684
ARMY, NAVY, & SEAMEN ABROAD,	} 207,198	
Total, -	31,817,108	77,512,585

The Census Commissioners state there is an increase of 705 persons daily ; and as the Census was taken on 2nd April, 1871, it is easy, on this reliable basis, to tell, with sufficient accuracy, the population at any date within the next few years. We have followed in the arrangement of the counties very nearly that adopted by the Census Commissioners.

ENGLAND AND WALES.

ENGLAND AND WALES together are often called South Britain. They differ materially in their physical features ; the former being rather flat, and the latter mountainous and hilly. In consequence of England being more rich in minerals it has much larger towns than Wales; in the latter, from its industry being almost exclusively agricultural, only small towns are found, the only exception being in the county

of Glamorgan, which, in its coal and iron works, successfully rivals similar industrial districts in England.

This country is bounded on the N. by the river Tweed, Cheviot hills, and Solway Frith; on the E. by the North Sea; on the S. by the English Channel; and W. by the Irish Sea and St. George's Channel.

The most eastern point of England is Lowestoft Ness, longitude $1^{\circ} 46'$ E.; the most southern is the Lizard, latitude $49^{\circ} 58'$; the most western point, is Land's End, longitude $5^{\circ} 45'$ W., the most northern point is a little north of Berwick, latitude $55^{\circ} 50'$ N.

Capes and Headlands.—On the E. *Flamborough* and *Spurn* heads, *Lowestoftness*, the *Naze*, *Foulness*, *Shoeburyness*, North and South *Foreland*. On the S., *Dungeness*, *Beachy* head, *Selsea* Bill, the *Needles*, *St. Alban's* head, *Portland* Bill, *Start* point, *Lizard* head, *Land's End*. On the W., *Hartland* point, the *Foreland* (in Devon), *Worms* head, *St. David's* head, *Braichy-Pwll*, *Great Ormes* head, and *St. Bee's* head.

Bays and Harbours.—On the E., *Bridlington* bay, *mouth of the Humber*, the *Wash*, and *mounth of the Thames*. On the S., *Rye* bay, *Spithead*, *Southampton* water, the *Solent*, *Poole*, *Lyme*, and *Tor* bays, *Plymouth* sound, *Falmouth* and *Mounts* bays. On the W., *St. Ives*, *Barnstaple*, *Bridgwater*, *Swansea* and *Carmarthen* bays, *Milford* haven, *St. Bride's*, *Cardigan*, *Carnarvon*, *Holyhead*, and *Beaumaris* bays, mouths of the *Dee*, *Mersey*, and *Ribble*, *Morecambe* bay, and the *Solway Frith*.

Islands.—On the E. are *Coquet*, *Holy*, and *Farne* Islands, E. of Northumberland; *Foulness* and *Sheerness* isles at the mouth of the Thames; the *Isle of Wight* and *Channel Isles*, in the English Channel; on the W. are the *Scilly Isles*, *Lundy*, *Ramsey*, *Bardsey*, *Holy Island*, *Anglesea*, *Walney*, and the *Isle of Man*.

The following table gives the counties of England and Wales, with the area, population, and capital town of each :—

ENGLAND.—FORTY COUNTIES.

FOUR NORTHERN COUNTIES.

County.	Area in acres.	Population.	Capital.
1 Northumberland,	1,249,299	386,959	Newcastle on the Tyne.
2 Cumberland,	1,001,273	220,245	Carlisle on the Eden.
3 Durham,	622,476	685,045	Durham on the Wear.
4 Westmoreland,	485,432	65,005	Appleby on the Eden.
5 Yorkshire,	3,830,567	2,436,113	York on the Ouse.

NORTH-WESTERN COUNTIES.

6 Lancashire,	1,219,221	2,818,904	Lancaster on the Lune.
7 Cheshire,	707,078	561,131	Chester on the Dee.

EASTERN COUNTIES.

8 Norfolk,	1,354,301	438,511	Norwich on the Yare.
9 Suffolk,	947,681	348,479	Ipswich on the Orwell.
10 Essex,	1,060,549	466,427	Chelmsford on the Chelmer.

SOUTH-EASTERN COUNTIES.

11 Surrey,	478,792	1,090,270	Guildford on the Wey.
12 Kent,	1,039,419	847,507	Maidstone on the Medway.
13 Sussex,	936,911	417,407	Lewes on South Ouse.
14 Hampshire,	1,070,216	543,837	Winchester on the Itchen.
15 Berkshire,	451,210	196,445	Reading on the Kennet.

SOUTH-WESTERN COUNTIES.

16 Wiltshire,	865,092	257,202	Salisbury on the Avon.
17 Dorsetshire,	632,025	195,544	Dorchester on the Frome.
18 Devon,	1,657,180	600,814	Exeter on the Exe.
19 Cornwall,	873,600	362,098	Bodmin on the Camel.
20 Somerset,	1,047,220	463,412	Taunton on the Tone.

WESTERN COUNTIES.

21 Gloucester,	805,102	534,320	Gloucester on the Severn.
22 Monmouth,	368,399	195,391	Monmouth on the Wye.
23 Hereford,	534,823	125,364	Hereford on the Wye.
24 Shropshire,	826,055	248,064	Shrewsbury on the Severn.

WEST-MIDLAND COUNTIES.

25 Stafford,	728,468	857,333	Stafford on the Sow.
26 Worcester,	472,165	338,848	Worcester on the Severn.
27 Warwick,	563,946	633,902	Warwick on the Avon.

NORTH-MIDLAND COUNTIES.

28 Leicester,	514,164	268,764	Leicester on the Soar.
29 Lincoln,	1,775,457	436,163	Lincoln on the Witham.
30 Rutland,	95,805	22,070	Oakham on Chatmoss.
31 Nottingham,	526,076	319,956	Nottingham on the Trent.
32 Derby,	658,803	380,538	Derby on the Derwent.

SOUTH-MIDLAND COUNTIES.

County.	Area in acres.	Population.	Capital.
33 Hertford,	391,141	192,725	Hertford on the Lea.
34 Buckingham,	466,932	175,870	Aylesbury.
35 Oxford,	472,717	177,956	Oxford on the Isis.
36 Northampton,	630,358	243,896	Northampton on the Nen.
37 Huntingdon,	229,544	63,672	Huntingdon on Great Ouse.
38 Bedford,	295,582	146,256	Bedford on the Great Ouse.
39 Cambridge,	525,182	186,363	Cambridge on the Cam.
40 Middlesex,	180,136	2,538,882	London on the Thames.

NORTH WALES.

1 Flint,	184,905	76,245	Mold on the Alyn
2 Denbigh,	386,052	104,266	Denbigh on the Clwyd.
3 Carnarvon,	370,273	106,122	Carnarvon on the Menai Strait.
4 Anglesea,	193,453	50,919	Beaumaris on the Menai Strait.
5 Merioneth,	385,291	47,369	Dolgelly on the May.
6 Montgomery,	483,323	67,789	Montgomery on the Severn.

SOUTH WALES.

7 Cardigan,	443,387	73,488	Cardigan on the Teify.
8 Pembroke,	401,691	91,936	Pembroke on Milford Haven.
9 Carmarthen,	606,331	416,944	Carmarthen on the Towey.
10 Glamorgan,	547,494	396,010	Cardiff on the Taff.
11 Brecknock,	460,158	59,904	Brecon on the Usk.
12 Radnor,	272,128	25,428	Presteign on the Lug.

Isle of Man,	180,000	53,867	Castletown on south coast.
Channel Isles,	46,684	90,563	St. Heliers.

Northumberland,* the most northern English county, extends from a little N. of the Tweed to the Tyne, is bordered on the N. and W. by mountains, the slope of the Cheviots forming good pasturage for sheep, but the Pennine range towards the W. abounding in many large dreary moorlands. It has the most celebrated coal-field in the world, giving direct employment to 60,000 persons; stretching from 25 miles N. of the Tyne into Durham, and penetrating under

* The land north of the Humber, called in the Saxon Heptarchy, Northumbria, and then included the six northern counties. In describing a county, four things are to be accurately given: (1) its boundaries; (2) its physical features, which will include drainage, surface, climate, etc.; (3) the chief industrial occupations of the people; (4) its chief towns. Every learner being supposed to have a map before him, we consider it unnecessary to give the boundaries.

the ocean to an unknown extent. It is drained by the *Tyne*, *Alne*, *Till*, *Wansbeck*, and *Coquet*. On the S. and E., where excellent farming is carried on, the county is partly flat. Lead, iron, and zinc, are found in abundance.

Newcastle-on-Tyne, about ten miles from the mouth of the river, ranks fifth as an English commercial city, has extensive manufactures of glass, mechanical implements. It has much ship building, and exports coals largely, sail cloth, machinery, etc. A statue of Earl Grey, and a bronze statue of George Stephenson, are the principal monuments. Besides its manufacturing character, Newcastle has a large cattle, corn, butter, and provision market, and a grammar school.

Tynemouth (22,000) and *Shields* are its ports; the former is very much used for sea-bathing.

Shields (North and South), with a rapidly increasing population, is noted for the manufacture of alkali, glass, wood and iron ship-building, ships' anchors and cables, etc. The two towns form the great outlet for the products of the extensive coal-fields in the neighbourhood.

Berwick-on-Tweed (13,000), well-known in border warfare, was, by the Reform Bill of 1832, made "a county of itself to all intents and purposes," except in being represented in Parliament as a county; and politically belongs to Northumberland, but ecclesiastically to Durham. It has an active trade in salmon-taking, packing in ice and exporting to London.

Morpeth (4,510), on the *Wansbeck*, is the largest cattle market in the N. of England.

Alnwick (6,000), on the *Alne*, has a splendid castle, the residence of the Duke of Northumberland. Here, in 1093, Malcolm, king of the Scots, was killed, and in 1174 another king of Scots, William the Lion, was made prisoner.

Allenheads, in the S. W., is the centre of the important lead mining district of Allendale.

Cumberland, with a rugged and mountainous surface, and a moist climate, is well-known for the beauty of its lake and mountain scenery; its excellent green crops, its lead and coal mines, and its stock-breeding are much esteemed. It is rich in limestone, and some silver and copper are found. *Skiddaw*, rising above Derwent-water to 3,022 feet, is covered on the sides with grass. *Scafell* and many other peaks rise in the same district to about the same elevation. The *Eden* and *Derwent* drain this county

Carlisle (31,074), an episcopal city on the Eden, once walled and entered by three gates, is the centre of the English and Scotch railway system, railways radiating from it in every direction ; population principally occupied in mining, and cotton and hardware manufacture. It was taken by Prince Charles, 1745 ; and by Prince Rupert in 1645, having surrendered after eight months' siege to the Parliamentarians in 1644. A good live-stock market is held here.

Cockermouth (7,057), with a good grain market, has industry in the making of hats, leather, and thread.

Longton (19,748) is a fast improving town on the Esk, near the Scotch border.

Penrith * (3,600), an ancient town, lies in a picturesque valley, amidst striking scenery, and remains of ancient edifices ; has some manufactures of woollens and cotton goods of a fancy kind.

Keswick, much frequented by tourists, is noted for the manufacture of black lead pencils, and has fine views of the lakes.

Whitehaven (18,842) is a large, handsome, well-built town, owing its importance to the collieries and rich iron mines in its neighbourhood. Iron is manufactured for the Welsh and Irish markets. Ship-building, rope-making, thread, and sail-cloth manufactories abound, with good West India and American timber trade. It has a public library.

Wigton and **Workington**, the former a manufacturing, the latter a seaport town, are fast improving places.

Durham,† lying between the Tees and Tyne, is a good agricultural county, well known for the breeding of dairy cows, to which it gives its name. The coal-field runs along the coast nearly the whole length ; coal and iron mining and exporting here constitute great industrial pursuits. On the W., mountain and moorland are found with rather a light soil. The *Tyne* forms the northern, the *Tees* the southern boundary, and the *Wear* runs through the centre of the county.

Durham (14,406), the cap., standing on the *Wear*, in the centre of a coal-field, has manufactures of worsted stuffs, rugs, canvas, sail-cloth, mats, glass, and earthenware.‡ It is the seat of a university,

* This town is built of red stone ; hence its name.

† A portion of Durham, with a coast line of fifteen miles, extends from Holy Island to Berwick. There is also a small "patch" near Easingwold, another in Northumberland, with Holy and Farne Island.

‡ Many persons are employed at the boot and shoe trade.

has an old castle, and a cathedral in which were buried the remains of the Venerable Bede.

Sunderland, an active port, at the mouth of the *Wear*, has glass manufactories, and very extensive ship-building and coal exporting.

Gateshead, properly a suburb of Newcastle, exports grinding stones.

Darlington-on-Skerne (27,730) makes linens, woollens, etc. ; is a railway centre, and manufactures locomotives.

Stockton-on-the-Tees (27,500) makes sail-cloth, has iron and brass foundries, ship-building, and a large corn and flour market.

Hartlepool (13,000), on the Tees, has trade with many places in shipping, coals, and iron ore ; it has large docks which cover 138 acres, and good public buildings.

Hartlepool West (13,164) is a modern town one mile distant, with an active trade in a great variety of articles.

South Shields, already referred to, has ship-building, glass, and alum works, and exports of coal.

Westmoreland is very mountainous, its eastern side being traversed by the *Pennine Range*, and the W. and centre by the *Cumbrian*, which contains many slate rocks ; its soil is barren on the hills, but fertile in the valleys ; extensive moors are found, and the climate is very humid. It is drained by the *Eden*, the *Ken*, and the *Lune*.

Kendal (13,400), on the Ken, has manufactures of woollen cloths, carpets, stockings, cottons used for sailors' jackets, linseys, fishing-hooks, and leather. There are also several mills, dye, marble, and paper works in the immediate neighbourhood.

Appleby, on the Eden, the smallest county cap. in England, has an old castle, and published the first provincial newspaper.

Milnthorpe, the only port, can receive small vessels at high tide. It has some good schools.

Yorkshire, the largest county in the United Kingdom, has an irregular form ; a line, from Spurn Head to the junction of the counties of Westmoreland and Durham on the north-west, is 125 miles ; and a length from the extreme south point at the junction of Derby and Nottingham to Todd Point, at the mouth of the Tees, in a direction nearly due north, is 92 miles : its circumference is about 400 miles, of which 120 are coast line. The gross area contains nearly 4,000,000 acres, of which about 3,000,000 are arable, pasture, and meadow, the remainder

barren and sterile wastes, woods, and wild moorlands. It is in the archiepiscopal province of York. The grand civil divisions of Yorkshire are into three *Ridings*,* West, East, North, and independent of which was until lately the ainsty of York. The immense population of this county generally exhibit habits of great industry ; and the varieties of the occupations pursued by them render it a very interesting and a most important portion of the United Kingdom.

The WEST RIDING (*cap. Leeds*) forms in the S. one immense manufacturing district, swarming with large factories, comprising important seats of the various woollen, cotton, linen, iron, hardware, and cutlery manufactures, as well as extensive quarries, and mines of freestone, limestone, coal, iron, copper, and lead. It is west of the *Ouse*, and is intersected by canals and railways in every direction. Near the *Ouse* the land is very fertile, being principally an alluvial formation.

The EAST RIDING (*cap. Beverley*) has three distinct districts, viz., the *Wolds*, an assemblage of chalk hills extending from the Humber to the Derwent, and ranging eastward to the coast, where they form the lofty promontory of Flamborough Head. The ascent of these hills is steep, except on their eastern side, but their height seldom exceeds 600 feet. Further S. is *Holderness*, marshy towards the Humber, and varied towards the E., where is *Hornsea Mere*.† The third division, called the “Levels,” is flat and level, but of considerable fertility. Along the coast there are good fisheries ; but tillage and grazing are the chief industrial occupations. Here also are produced the splendid hams so well known everywhere.

The NORTH RIDING (*cap. York*), diversified by hills and flats, has bold and rocky cliffs, rising a little S. of Whitby to 890 feet. The eastern moorland is wild and mountainous, bleak and dreary, but in many places fertile. The vale of

* The term *Riding* is a corruption of the Anglo-Saxon name, *Trithing* or *Triding*, and this division is generally attributed to the Saxons.

† It occupies 436 acres, is the largest lake in the county, and teems with fine fish.

York, running S. from the Tees to the S. of the county, is exceedingly fertile. The western moorlands are also in this riding; rich pastures and good grain crops are produced; marble, jet, alum, and lead, abound. The rivers will be described in a separate chapter.

York,* with its ainsty of 36 villages, has lately been added to the North Riding, is the see of one of the two English archbishops, stands in a flat situation on the Ouse, has a circumference of 32 miles, consisting of an old wall entered by ten gates, four of which remain, and is nearly midway between London and Edinburgh. Its wall is the most complete in the kingdom. It has many attractive reminiscences of its great antiquity, such as remains of Roman towers, and early British churches. Its cathedral, of a cruciform shape, is placed amongst the most magnificent in the world. A monastery, some traces of which still remain, was completed here in the time of Rufus. The city is supplied with good educational institutions, such as preparatory schools, and training schools for teachers; but its trade, once important, is now confined to a little glass making, leather gloves, and comb making, and the manufacture of railway carriages. Around York the cultivation of mustard is a remunerative industry. It is prepared in the mills of York, and sold as "Durham mustard." In 1069 it was besieged by the Conqueror. This city was the favourite residence of the Roman emperors. It has annual races.

Hull,† the chief port of the county, and the fourth in England, stands at the mouth of a river of same name, on the N. bank of the Humber; steamers ply to Scotland, Hamburg, the Netherlands, and more particularly to the Baltic, and N. Germany, exporting great quantities of manufactured goods to, and importing the productions of, Northern Europe. Its trade is in iron and timber, cheese, flax, and woollen goods. An equestrian statue of William III. stands in the market-place; and Henry VII. frequently resided here. Its manufactures are those of a great port—sail-cloth, cables, etc. It has a nautical and a grammar school.

Leeds, on the Aire, is the great seat of the manufacture of woollen cloth and tweeds; has also linen, iron, and machine-making, glass, bricks, leather, and earthenware manufactures, and numerous splendid public buildings, statues of many important persons, including those of the Queen and Wellington. It has a magnificent town-hall, nume-

* Originally a town of the Brigantes, a people of Celtic origin, mentioned by Tacitus as the most numerous of the tribes of Britain; was made a Roman station A.D. 79. Here Constantine the Great was born, and the emperors Severus and Constantius Chlorus died.

† Founded by Edward I., and called by him Kingstown; afterwards contracted to Kingston; was walled in 1322.

rous mills for fulling cloth, forges, and collieries in its vicinity. But in the old part of the town the streets are narrow, crooked, and not very clean. There are also large cloth halls in which the woollen goods are exposed for sale at the markets. It has also an important cattle market, and a grammar school.

Sheffield, famed for its cutlery from a remote period, is picturesquely built on several hills, near the confluence of the Sheaf and Don, the latter being navigable to the town: it is well built, though of dim appearance, being enveloped in smoke from the chimneys of its factories; it possesses many fine public buildings—the Town Hall, Cutlers' Hall, Assay Office, Grammar School, and Wesley College. Its manufactures consist of an endless variety of articles in brass, iron, and steel; knives, scythes, files, silver and plated ware; Britannia metal and German silver goods; all articles of use in husbandry; electro-plating in gold and silver; armour plating for ships; and so on. Coals and iron ore abound in the neighbourhood; and trade is energetically carried on by means of numbers of railways and canals. Cheese, corn, and fruit, form also important industries.

Bradford, a well-built town, with many fine public buildings, is the great centre for manufacture of alpaca-wool, stuffs, silks, and merinos; and also for worsted-spinning. It has a great wool market.

Halifax, a well-built and opulent town, on the Calder, with a splendid town-hall, produces the finest kinds of stuff goods, such as shalloons, serges, etc.; as well as many kinds of worsted fabrics. It is a complete hive of industry. It has the largest carpet works in the world; produces cotton fabrics in abundance; and ranks next to Leeds and Bradford as a seat of the woollen and worsted trade.

Middlesborough (39,585), a river port on the Tees, of recent date, has great exports of coal; has extensive iron manufactures, bottle, delft-ware, and glass making.

Howden on the Ouse is celebrated for its horse fair, said to be the largest in the world.

Ripon (6,805), on the Ure, is a cathedral town, with a grammar school.

Huddersfield, on the Colne, has manufactures of flannels and blankets, and narrow cloths, shawls, doeskins, and serges, of a fancy kind. Its streets are admirably laid out, and the town is under the best sanitary regulations. It has a circular cloth-hall, a college, and several fine schools.

Saddleworth produces kerseymeres and broad-cloths, nearly as good as those in the W. of England.

Wakefield (28,000), with immense corn warehouses, stands on the Calder; has also great wool, corn, and cattle fairs; and very skilful dyers. In a battle here, 1460, Margaret of Anjou defeated the Yorkists.

Barnsley (23,000), a prosperous town, in the midst of iron works and collieries, is the centre of the linen manufacture in England.

Beverley (10,000), the "county town" of the East Riding, has considerable trade in iron, coal, and leather, and possesses several excellent schools.

Rotherham, on the Don, one of the great iron seats, has numerous manufactories of iron goods, including cannon, machinery, and bridge works, flax mills and breweries, twine, glass, and soap.

Knaresborough (5,205), on a rocky bank on the Nid, is neatly built, has limestone quarries, linen making, a corn market, and a grammar school.

Scarborough (24,000), delightfully situated, on a spacious harbour (formed by a noble pier), is the only port for large vessels between the Humber and the Tyne. It exports corn and provisions, and imports timber from North America, and cattle from the Baltic; has ship-yards, rope-walks, and sail manufactories: is chiefly celebrated as a watering-place, combining mineral springs with sea-bathing.

Bingley, with worsted manufacture and cotton spinning, is an improving town.

Doncaster (18,758), noted for its races since 1703, was for centuries a place of note, celebrated for the excellence of its posting establishments. The Great Northern Railway now runs through it; and it is a great railway centre; and, having recently acquired a large additional population from the establishment of the Plant of the Railway, is rapidly increasing.

Goole (8,707), with magnificent docks, is a fast rising port on the Ouse; has a commodious harbour, and rising trade.

Batley (21,000) is very fast increasing in size and importance.

Malton (8,168), on the Derwent, is a town with improving trade, and excellent markets. It has a grammar school.

Dawsonbury (24,773), a thriving town on the Calder, lying in the heart of the woollen trade, being about nine miles from each of the towns, Leeds, Bradford, and Huddersfield, and is best known for its blankets and druggets.

Whitby (13,000), on the coast, surrounded by high cliffs, has alum mines, manufactures of jet, and is the birthplace of Captain Cook.

Bridlington, on the coast, a favourite bathing place, has many interesting ruins.

Harrowgate, well known for its mineral waters, consisting of 25 springs, is in the midst of a nice country.

Lancashire, so well known for its variety of industrial pursuits, lies on the Irish sea, and has immense beds of coal towards the S. Morecambe Bay runs into it towards the N.

and separates the county into two parts, that to the N. being called *Furness*. In the S. are the great cotton manufactures. Good crops of oats and potatoes are produced. It is drained by the *Mersey*, *Lune*, *Ribble*, and *Douglas*.

Lancaster (17,248), the cap., near the mouth of the *Lune*, is a neat well-built town of great antiquity. A considerable number of small ships are built, and it carries on a large trade in coal and limestone, and has manufactures of furniture, cotton, silk, linen, and sail-cloth. It has an old castle of historical note.

Liverpool, the second port in the realm, stands on the *Mersey*, about four miles from its mouth, its docks running along the river's bank for 9 miles; it is on a hilly foundation. It is the great emporium of the American and Irish trade, has great commercial importance, and constant traffic with all parts of the world. Many of its streets are narrow; but the suburban residences, principally of the merchants, exhibit great beauty and elegance. Its public buildings—Brown's Library, St. George's Hall, Lime-street Railway Station, etc.—are excellent. Besides its manufactures as a shipping port, it has iron foundries, manufactures of watches and jewellery on an extensive scale. It is pre-eminently the cotton port, importing the raw material, and exporting the manufactured articles.

Manchester, on the *Irwell*, on an eminence, is an opulent and immense manufacturing city, crowded with ware-houses, factories, and shops, adorned with handsome public buildings, and surrounded by numerous elegant villas. It was celebrated, two centuries ago, for its manufacture of woollen cloths, to which it has successively added mixed stuffs, hats, tapes, lace, linen, silk, cotton, and other articles, has become the centre of the cotton trade, the emporium at which are collected all the products of the neighboring towns; and they are sent to London, Liverpool, Hull, and other places for home as well as foreign consumption. It has three large parks, many fine public buildings, warehouses, factories, and cotton stores resembling palaces near the centre of the town, with many splendid streets, parades, and squares, towards the outskirts. Its commerce is greatly aided by the many railways which connect it with other industrial seats; in addition to the cotton trade it has calico printing, manufacture of steam-engines and machinery, and various branches of industry subsidiary to them.

Salford, connected with Manchester by five bridges, though a separate borough, may be considered as the same city, and partakes of the same industry.

Prescot, near Liverpool, has a few cotton and flax mills, and makes files and watches.

Warrington (32,000), on the Mersey, on the borders of Cheshire, has manufactures of sail cloth, iron and copper works, oil and paper mills, forges, etc. ; besides, it has a mechanics' institute, a training college, and a grammar school.

Bolton is indebted for its importance to its manufactures of silk and cotton; the improved mechanism of the latter branch of trade having originated here, machinery to a great extent is manufactured. Numerous collieries are in the neighbourhood. It is the birth-place of Crompton, who contrived the mule-jenny.

Burnley (31,608), on the Burn, north of Manchester, is a prosperous manufacturing locality; cotton and woollen fabrics and machinery being made in large quantities. There are, also, iron and brass foundries, breweries, tanneries, and rope walks. It has a grammar school.

Blackburn, in a cotton manufacturing district, with a large coal trade, has many print works, and some large paper mills. It has several fine churches, and a grammar school ; and gave birth to Hargreaves, the inventor of the spinning-jenny.

St. Helen's, in the midst of coal mines, has plate glass and bottle factories, and copper works.

Barrow-in-Furness (18,000) has recently become an important town.

Rochdale, in a beautiful valley or dale by the River Roche (hence its name), is celebrated for its blankets, baizes, and other woollen manufactures. There are weekly markets for woollen goods and grain, besides a good fortnightly cattle fair. It has a theatre, news room, barracks, 4 banks, and many churches.

Oldham, a market-town, with extensive manufactures of fustians, velveteens, cords, and calicoes, is the principal seat of the hat manufacture, and stands 6 miles from Manchester. There are extensive and excellent collieries and silk mills in the neighbourhood. The growth of this town has been very rapid. It has a good park.

Preston, a densely populated cotton manufacturing town on the Ribble, is the birth-place of Arkwright, who invented the spinning-frame ; and here the Pretender's forces were defeated, 1715. To the north-west is a large agricultural district known as the Fylde.

Ashton-under-Lyne (32,000), on the Tame, is a thriving town, with manufactures of ginghams, hats, and silks.

Fleetwood, on the Wyre, is a sea-port and a watering place ; and has a school of musketry.

Wigan (39,000), on the Douglas, has manufactures of calicoes and other cotton goods, checks and linens ; spades, edge-tools, and paper ; cotton, iron, brass, and chemical works. The vicinity abounds with that elegant species of coal called *cannel*, sometimes manufactured into various ornaments.

Bury produces woollens in addition to its cotton goods.

Ulverston is the focus of commerce for Furness, and parts of West Cumberland, from which it is separated by the estuaries of Morcambe Bay on one hand, and Duddon Sands on the other. It lies in an extensive agricultural and mining district.

Chorley has manufactures of calicoes, muslins, and fancy goods. It has a grammar school.

Cheshire, nearly a perfect level, except on the E. where some elevations occur, has a soil admirably suited for pasture; excellent cheese is produced in abundance; and rocksalt exported to Ireland and the Baltic from the mines about Nantwich; the S. Lancashire coal-field enters on the N.E.; copper and lead are found in small quantities. It contains Delamere forest, and several heaths still exist. The peninsula between the estuaries of the Dee and Mersey is called *Wirral*. This county exports about 14,000 tons of excellent cheese annually. It is drained by the *Mersey*, *Dee* and *Weaver*, the latter running through its centre.

Chester (35,701), the cap., an ancient city, on the Dee, is remarkable for a peculiarity of construction not seen in other towns. The houses are excavated from the rock to the depth of one storey beneath the level of the ground on each side, and have a portico running along their front, level with the ground at the back, but one storey above the street. These porticoes, which are called the rows, afford a covered walk to pedestrians, and beneath them are shops and warehouses on a level with the street. The ancient walls are kept in good repair, and form a delightful promenade, commanding fine prospects. The exchange, cathedral, and county hall are fine buildings. The race-course, lying between the wall and the river, is perfectly level. This was formerly the packet-station for Ireland.

Congleton (11,344), near the E. of the county, has silk manufactures, and a grammar school.

Macclesfield (35,451), on the Bollon, has much increased in prosperity, from the growing importance of its silk manufactures. In its neighbourhood, too, the cotton manufacture flourishes.

Stockport, on the Mersey, is famous for its cotton-spinning and weaving, and calico printing; also the manufacture of hats. The trade and manufactures have greatly increased of late years, and it derives considerable benefits from its extensive railway communication, and its neighbouring coal mines.

Crewe, a great railway centre, with lines diverging in six different directions, is in the E. of the county, and is of modern growth.

Nantwich,* on the Weaver, has a brine spring, and produces some salt. It has shoe and glove making.

Birkenhead, on the Mersey, is the largest town in the county, and has extensive shipbuilding, a good park, docks for the largest vessels, and is the most lately-built town in the British Isles, having had in 1821 only 200 inhabitants.

Norfolk, one of the great agricultural counties, including some of the Fen country, is nearly oval-shaped. It is drained by the *Yare* and *Great Ouse*; and, with the exception of the East Anglian hills, is very flat, and liable to inundation. No minerals exist in it. Mustard is cultivated on the borders of Cambridge, and wheat and barley are its chief grain crops; fishing is important on the coast. Immense numbers of poultry are reared to supply the London market.

Norwich, a populous city, on the Wensum, surrounded by walls; manufactures bombazines, mixed stuffs, camlets, damasks, crapes, poplins, shawls, etc. Its cathedral is spacious and handsome. It has many splendid public buildings, including a guild-hall, theatre, a grammar school, and numerous parish churches. Norwich is distinguished by being the first place in which a fire insurance was established on the principle of returning a portion of the profits to the insured.

Yarmouth, with an excellent harbour, and great trade, stands at the mouth of the *Yare*, and may be considered the port of Norfolk, Suffolk, and part of Essex. It was formerly walled, and the old town is intersected by narrow lanes. It is the principal seat of the English herring fishery; imports timber, wines, and colonial produce, and exports barley and other grains.

Lynn Regis† (16,459), a handsome town on the Ouse, imports a great quantity of coal, and exports corn. It has an Exchange and some good public buildings. A little N. is *Sandringham*.

Thetford (4,167), an old Saxon town on the Little Ouse, has trade in malt.

Diss, a good market town on the S. border, has manufactures of brushes and hosiery.

Wells, with a good oyster fishery, has some coasting trade.

Suffolk, with a gently undulating surface, and a dry

* *Wich* means salt in Celtic; hence the terms Norwich, Middlewich, etc.

† Formerly Lynn Episcopi, and the property of the bishop of Norwich; Henry VIII., having seized the town, gave it its present name.

climate, with marshy flats near the coast, is also an agricultural county, where dairy-farming and tillage husbandry are extensively carried on. It is drained by the *Stour*, *Orwell*, *Lark*, and *Little Ouse*, and the *Waveney* which separates it from Norfolk.

Ipswich, the capital, is an old town on the *Orwell*, exports malt and corn ; has a coasting trade, and manufactures of iron and machinery. The district around is agricultural ; and includes the manufacture of agricultural implements and manures, paper, soap, snuff mills, and docks for ship-building. It has some handsome churches and chapels, an hospital, and a grammar school.

Bury St. Edmund's (14,928), beautifully situated on the *Lark*, is regularly built, and has large corn and cattle markets. The district around is chiefly agricultural, but it is remarkable for the number of delightful noblemen's seats, whilst the town itself attracts many families by its grammar school, one of the most celebrated.

Sudbury (7,000), on the *Stour*, where the Flemings settled, and introduced the woollen manufacture, is a clean market-town with a grammar school.

Lowestoft (17,000), the most eastern town in England, has a great herring and a good mackerel fishery, a good harbour, and is a watering place, now much frequented. A battle was fought off the coast in 1665, when the Dutch fleet was defeated.

Bungay, on the *Waveney*, has a grammar-school, printing trade, and silk manufactures.

Essex, remarkable for its good husbandry, has, generally speaking, a level surface, with a few hills and forests in the centre, and a slight elevation towards the N.W ; near the sea and Thames, marshes abound ; and many islands are near the coast ; excellent grain crops are produced. The Royal Forest, *Epping*, extends 20 miles in the W., where the suburbs of London are fast extending. The *Stour*, *Lea*, *Blackwater*, *Chelmer*, and *Colne*, drain this county.

Chelmsford (9,000), the capital, stands in a nice valley on the *Chelmer*, has an important agricultural market ; is on the grand line of road, formerly Roman, from London to Colchester. It has a good grammar school, and much trade.

Colchester (26,361), a military station on the *Colne*, is an ancient town long famous for its oysters. It has trade in oil-cake and malt.

It has very extensive tailoring establishments. In the civil war it sustained a siege, and was finally taken by Fairfax, 1648.

Harwich (6,000), at the mouth of the Stour, was formerly the packet station for Holland; has a good harbour and dock-yard.

Braintree, on the Blackwater, is an ancient town with a little silk-making and straw plaiting.

Walton-on-the-Naze, and *Southend*, are favourite summer retreats.

Maldon, on the Blackwater, is a small town.

Barking, formerly the seat of a rich abbey, is near the Thames; its inhabitants are all engaged in fisheries.

Surrey, lying S. of the Thames, is the residence of many of the London merchants, and has a rich soil towards its borders, but in the centre sandy ground and barren heath prevail; corn and hops are extensively cultivated; excellent sheep-walks abound. The North Downs run through this county. The *Wey* and *Mole* drain it. It has four assize towns.

Guildford (11,112), on the Wey, the county town, has a royal grammar school; carries on a considerable traffic by the river, in corn, timber, malt, and coals; has paper and powder mills in the vicinity.

Kingston (27,485), situated at the influx of the Ewell with the Thames, has flax and oil mills, malt-kilns, and a good corn market. The S. W. railway runs very near the town; and a new town called New Kingston has sprung up around the station.

Southwark is in this county—see London.

Reigate (16,000), where there is a cave in which the barons secretly met who made King John sign Magna Charta. It is now a great railway centre, and a flourishing town.

Dorking (9,920), E. of Guildford, is a clean town, remarkable for its prize fowls.

Epsom, a few miles from Croydon, has a mineral spring from which “Epsom salts” were once manufactured. Here our celebrated Derby races are held every year.

Croydon (27,135) a pleasant, wealthy town, 9 miles from London, is rapidly increasing in population, and is one of the assize towns for the county, and has a good corn market and an annual fair.

Wimbledon (9,087), where the annual rifle competition of the United Kingdom is held, is the residence of many London merchants.

Farnham, on the Wey, is in the midst of the best hop district; has an old palace. Near Farnham is More-park, the residence of Sir W. Temple, with whom Swift resided.

Richmond (16,826), formerly called *Sheen*, is a fine old town,

lately much improved, where Edward III. Henry VII., and Queen Elizabeth died.*

Kent, with small hills covering the entire surface, except the marshes which lie along the Thames and the Weald in the S., (a moist district,) is a great industrial county, in which the hop-culture prevails; it also produces excellent cereals, under the most approved husbandry. The Thames forms its northern boundary for about 40 miles; and its other rivers are *Stour*, *Rother*, *Medway*, and *Darent*. It is famous for fruits, woods of oak, beech, and chesnut.

Sheppey Isle, separated from the mainland by the *Swale*, is principally marsh and pasture lands. *Sheerness*, the only town on it, is a naval station rising in importance, taken by the Dutch in 1637. The dockyard covers nearly sixty acres. A large fleet generally lies at Sheerness. It communicates with London by steamers, exporting corn, seeds, and oysters. *Thanet Isle*, of remarkable fertility, on which stands *Margate* (12,054), is on the N. E. of Kent, and *Ramsgate* (21,000), great resorts of Londoners during the bathing season. *Goodwin Sands*† protect the low shore from easterly winds, and serve as a great breakwater, forming the *Downs*, an excellent roadstead.

Greenwich, with its hospital for invalided sailors, its royal observatory in the park, is the resort of many strangers, who crowd from London by river, rail, and omnibus.

Canterbury (21,000), a city with a splendid cathedral, is erected on the site of the first Christian church built in England, has a grammar school founded by Henry VIII., is the see of an archbishop, who is "Primate of all England." There are woollen mills near the city; but its chief source of industry is the export of agricultural produce, especially hops. It has some very ancient ecclesiastical edifices. Here Thomas à Beckét, then archbishop, was murdered, 1171. Cromwell used the cathedral as a stable for his troopers.

Gravessend (21,183), much frequented by Londoners, is 25 miles distant from London bridge, and has a theatre.

Maidstone (26,198), the capital, on the Medway, carries on a considerable trade, especially in hops, of which it is the centre. In the vicinity are very extensive hop-grounds, and many paper, corn, and other mills. It has some manufactures; the district is large and mixed, being agricultural, commercial, maritime, and military.

* Burnt in 1497; rebuilt by Henry VII. in 1501, and called by him Richmond, his own former title.

† Formerly the estate of Earl Goodwin, and submerged by the sea.

Dover (28,270), Packet-Station for France, Belgium, and the East, a marine residence and fashionable watering-place, was the site fixed upon by the Harbour Commission for the first harbour of refuge to be constructed on the south-eastern coast, and is the principal of the Cinque Ports. It is also a military station, having barracks for 5,000 soldiers, and extensive fortifications. Dover is celebrated in history as a place of importance since the Norman Conquest, and has been often called the lock and key to all England. Here two disgraceful treaties were entered into—that by King John, by which he gave up his kingdom to the Pope; and that by King Charles II. (1670) when he secretly became a pensioner of France.

Woolwich, where every person entering the service of the artillery acquires a knowledge of the profession. Its dockyard (now closed) and royal arsenal, artillery barracks, military academy, and the royal military repository, are the chief attractions.

Tunbridgewells has mineral waters, and is a place of fashionable resort.

Rochester (18,000), on the Medway, a city of very great antiquity, is the see of a bishop; has constant intercourse with the metropolis by rail and steam boats; has an excellent oyster fishery. The Roman Road, called Watling-street, passes through this town to Dover. It has two free schools, one called the King's, and the other the City School; a cathedral, and an old castle.

Chatham, an important military depot, is properly a modern continuation of Rochester, and is a busy place; has a dockyard and arsenal surrounded by a wall which encloses 90 acres.

Folkestone (12,694), on the coast, communicating by rail with London, and with the Continent by steam-packets. **Hythe** (3,363): its trade is wonderfully increasing. From its healthy and delightful situation it is annually becoming an attractive and fashionable watering-place for Londoners. It has a school of musketry.

Dartford, with corn, paper, oil, and powder mills, stands on the Darent. Here Spielman built the first paper mill, and here Wat Tyler's rebellion broke out, 1381.

Deal (8,000) with **Sandwich** (3,096), forming one of the Cinque Ports, is noted for its skilful pilots and boatmen. Here Cæsar landed.

Deptford, where Peter the Great worked as a ship-carpenter, has an extensive navy victualling yard.

New Romney, near Dungeness, is one of the Cinque Ports, stands on a marsh, and is fortified.

Sussex, a tillage and pasture county, with cliffs of chalk on the coast, has the rich pasture called the South Down Hills running through the centre, and a level country

N. and S. It is drained by the *Rother*, *Ouse*, and *Arun*, in which, as well as along the coast, abundance of excellent fish is caught.* The chief productions of this industrious county are corn, cattle, wool, wood, iron, chalk, fowl, and fish.

Chichester (7,850), walled, and entered by four gates, is an old, compact, and neat town on a plain, has a great market. Its cathedral is much admired. Fine lobsters are caught.

Midhurst (6,756) contains a town-hall and some good public buildings, and has a corn-market.

Lewes (10,700), an ancient, well-built, and populous town, pleasantly situated on edge of the South Downs. In 1264, a bloody battle was fought here, when the barons defeated Henry III. It has markets well supplied, and two annual fairs, at which from 80,000 to 100,000 sheep are sold.

Newhaven is the port of Lewes, whence steamers cross the Channel. It has an excellent needle factory.

Worthing is now frequented as a watering place.

Brighton, a sea-port and rising fashionable bathing-place, is much frequented. Its fisheries of herrings and mackerel send considerable supplies to the London markets. It possesses great communication with the metropolis and is fast increasing.

Hastings (29,000), one of the Cinque Ports, a most delightful watering-place, formerly possessed a good harbour, but its chief dependence now arises from its fisheries. The climate is mild, and rendered agreeable by the beautiful and romantic scenery and interesting objects of the neighbourhood. *St. Leonard's*, a handsome suburb, adjoins Hastings, and has within the last few years become a favourite residence. The battle of Hastings was won by the Conqueror, 1066.

Bognor, a fashionable watering-place, is a little E. of Selsea bill.

Hampshire,† abounding in forests,‡ valleys, and woodlands, is, on the whole, a fertile and well-cultivated county, traversed by the N. and S. Downs. It is drained by the *Itchen* and *Test*, both flowing into Southampton Water, and the *Avon*, which enters the Channel at Christchurch. Besides the usual crops, hops are extensively cultivated,

* Above one thousand men are constantly employed at fishing.

† Called also Hants or Southampton.

‡ Great numbers of pigs are fed on the acorns, and the "Hampshire bacon" is much prized. The *New Forest* is in the S. W.; and the small forests of *East Beere* and *Woolmer* are also in this county.

particularly in the N. E.; and in the S. of the county, there is great industry in supplying the usual articles of naval equipment to the immense number of vessels which frequent its ports. Numerous oysters, lobsters, and other fish abound along the coast. In the *New Forest* there are oaks of many hundred years' growth. Spithead, defended from all winds, can accommodate 1,000 vessels; is so deep, that at low water the largest ship can enter.

Winchester (14,705), a very ancient city, and a royal residence under the Saxons and Romans, stands on the *Itchen*, in a valley between chalk hills; has some fine public buildings. It has a magnificent cathedral, a college widely celebrated, and an infirmary, and numerous remains of castles and abbeys. It was the favourite residence of the Norman Kings.

Christchurch (15,415), at the mouth of the Avon and Stour, is engaged in making fusee chains and gloves. It has a double tide.

Portsmouth, a naval arsenal at the mouth of Portsmouth harbour, unrivalled for spaciousness and safety, and defended by fortifications that render it impregnable, is the rendezvous of the Channel fleet. The docks, the arsenals, the storehouses, the block machinery, and the stupendous arrangements made here for building, repairing, and equipping a fleet, are on an extensive scale. It is a government naval port; the population depends on the various public establishments, and comprises a great many half-pay officers. It is the resort of the West India and Peninsular steam packets; and the New York sailing packets, Indiamen, and ships crossing the line.

Gosport, properly a suburb of Portsmouth, is parted from it by an arm of the sea, but partakes of the same industries.

Lyndhurst, the capital of the New Forest, is a small town.

Southampton, a rising sea-port, the Packet Station for the West India, Mediterranean, East India, and China, New York, and Newfoundland Mails, has a very extensive intercourse by railway, and by steam-boat with the Channel Islands and Ireland. There are manufactories of silks and carpets in the town. It is the headquarters of the Ordnance Survey, and has many excellent public buildings, including a grammar school.

Isle of Wight.—This beautiful island is situated south of Hampshire, to which it is politically united, and from which it is separated by the Solent and Spithead. In the centre is a range of hills running from E. to W., pasture abounds in the N., corn lands in the S.; is about 23 miles

from E. to W., and about 13 from N. to S. The climate is, perhaps, the mildest in the British empire; the surface level and the productions luxuriant. The *Medina* drains this isle, and divides it into two almost equal parts. Population is 55,000.

Newport (8,000), in the centre, is the cap. and largest town, and connected by a railway with Cowes.

Cowes, the head-quarters of the Royal Yacht Squadron, stands at the mouth of the Medina. *Osborne House*, one of the palaces of Her Majesty, is in its vicinity.

Ryde (11,234), a highly fashionable town, much frequented for bathing, has a new pier 2,245 feet long, which forms an excellent promenade. In the vicinity are beautiful villas adorning the seashore.

Ventnor, sheltered by neighbouring heights, lies on the S. W. of the island; has risen to be a fashionable watering place.

Yarmouth, a small town of much antiquity, has some fishing.

Berks,* irregular in shape, lies S. of the Thames; has a varied scenery, by chalk hills and levels (often called vales, as the rich Vale of the White Horset), with a good soil, is interesting as containing the favourite residence of our sovereigns, Windsor castle, surrounded by its park and gardens. Grain crops are largely raised, and the *Thames* and *Kennet*† afford good fish.

Abingdon (5,800) consists of several wide streets; has a good market in grain.

Reading (14,372), on the Kennet, the capital of the county, carries on a considerable trade in flour, timber, and malt; it has some establishments for making sail-cloths, ribands, and pins, and is much engaged in the making of boot-trees and lasts. It is the birth-place of Archbishop Laud; formerly had an abbey, the remains of which are still seen. It has iron works and biscuit making.

Windsor (29,000), celebrated for its magnificent castle, has for ages been the residence of the British sovereigns; its scenery of sylvan beauty, its park and gardens, are much admired. Its castle was first

* Formerly written Barkshire; hence its present pronunciation.

† In the W. of the county; so called from a chalky cliff said to resemble a horse.

‡ "The Kennet swift, for silver eels renowned,
The Loddon slow, with verdant alders crowned."—

Pope.

built by the Conqueror as a hunting seat. It is in an agricultural district, and includes some paper mills and carriage manufactories.

Hungerford (6270), on the Kennet, on the borders of this county and Wilts, has a good grain market.

Newbury (7,597), on the Kennet, has trade in malt, and manufactures serge. Two battles, one in 1643, and the other in 1644, occurred here ; the royalists were defeated on both occasions.

Wilts, a fertile county, is divided into South and North ; the former varied with hill, river, and valley, and abounding in rich meadows and grain fields ; the latter is a thickly-wooded level district. The downs are in the middle, and afford excellent pasturage for sheep. The *Avons*, *Nadder*, and *Kennet*, are the chief rivers, by which it is admirably watered. Salisbury Plain, about 20 miles long and 14 broad, is a tract of chalk, where stands *Stonehenge*, the most remarkable and extensive Druidical remains in the United Kingdom.

Salisbury (9212), with a fine cathedral, one of the most elegant and regular Gothic structures in the kingdom, is on the Avon, and has trade in ale.

Devizes (7,524), near the centre of the county, was once famous for its woollen manufactures, of which but little remains ; but it has silk-throwing, snuff manufactories, and malt-kilns, and many public buildings. It is the seat of the county lenten assizes and a good corn market.

Bradford (10,645) on the Avon, engaged in the west of England cloth manufacture, is a town of great antiquity.

Trowbridge (12,588), on the river Biss, has extensive manufactures of kerseymeres, tweeds, and broad cloths of the very best description. The town is the wealthiest and most prosperous in the county.

Swindon (17,469), standing on a hill, a neatly-built town, has great railway-workshops, and a corn market. It is chiefly inhabited by engineers and machinists.

Marlborough* (3,660), with a college founded in 1843 for the education of sons of Church of England clergymen, gave the title of duke to Lord Churchill, the celebrated general. It is a good butter and cheese mart, and has rope-making.

Calne (2,468) and Chippenham (6,387), are small towns with agricultural trade.

* So called from its chalk hills ; chalk being anciently called marl.

Wilton (6,112), from which the county derived its name, has carpet-making. It stands on the Wiley. Here Alfred defeated the Danes, 871.

Cricklade, on the Thames, was twice destroyed by the Danes. It is at present a centre of trade.

Dorset, uneven and hilly in surface, with luxuriant pasturage, beautiful scenery, and a mild climate, has been called the "Garden of England." It produces excellent pipe clay along the banks of the *Frome*. Immense flocks of sheep are fed on the downs and hills in the interior; corn, flax, and hemp, are grown. The *Stour* and *Frome* are the chief rivers.

The Isle of Portland, on which there is a convict prison, is much famed for its excellent building-stone, of which most London public edifices were built; and *Purbeck Island* gives abundance of paving-stones.

Dorchester (6,915), in the midst of an immense sheep pasturage district on the *Frome*, a town of great antiquity, seated at the point of junction of several railways, is noted for the excellence of its ale, and its extensive sheep and cattle fairs. It has a few cloth factories.

Weymouth (10,000), on the coast, the favourite resort of summer visitors as a bathing-place, is the seat of daily steam traffic to the Channel Islands. Portland Harbour renders it one of the most important naval stations, and it is defended by a large fortress.

Poole (10,129), a clean, well-built seaport, with a good tidal harbour, has trade with North America, and some coasting trade. It has long been famous for its excellent oysters. It has two tides in twelve hours.

Shaftesbury (2,472), a large old town, on a bleak hill, has agricultural trade.

Lyme Regis (2,329), now resorted to for sea-bathing, has coasting trade. Here Monmouth landed, 1685, in his unfortunate expedition.

Devon,* with about 160 miles of sea-coast, with fine bays and harbours, is a rich agricultural county, produces the best butter and cider, and numbers of fat oxen from its extensive pastures. It contains copper, tin, and lead mines. In size it ranks next to York, and its hills rise into moun-

* In the Royal Forest of *Exmoor* the red deer still roam; and on *Dartmoor* the wolf was hunted in Queen Elizabeth's time.

tains near Dartmoor. The extensive waste called "Dartmoor Forest" lies in the W., and droves of small sheep pasture on its high lands. In the valleys the air is particularly mild; but cold and bleak on the hills. Marble is abundant. It is drained by the *Exe* and *Tamar*, *Torridge*, and *Taw*, and numerous smaller streams, such as the *Dart* and *Teign*.

Exeter (34,646), termed "the Metropolis of the West," is a handsome commercial city, being the centre of an immense population, which has been greatly increased since the completion of the Bristol and Exeter Railway. It has a pleasant situation on an eminence on the E. bank of the *Exe*. Its cathedral churches and public buildings are much admired. Exeter carries on an export trade in cider and woollen goods, manufactured in the neighbourhood, and imports wine, fruits, drugs, linens, iron, hemp, timber, and tallow. It also has trade in corn and coal. Exeter communicates with Topsham by means of a canal capable of receiving ships of considerable size.

Plymouth, with a citadel, is noted for manufactures and a large foreign trade; its government dock-yards, gun wharf, victualling office, and royal marine barracks, strong fortifications, great naval and military establishments, are much praised; with a spacious harbour, protected by a gigantic breakwater. The *Eddystone* lighthouse, about 10 miles distant, on a granite rock, is an instance of marvellous perseverance.*

Devonport, a naval arsenal and dockyard, indebted for its origin to its selection for one of our principal naval arsenals. Its harbour is admitted to be the finest in the world, and has also been chosen as the site of one of the great naval steam yards. Its dockyards cover ninety-six acres. It forms the headquarters of the western military district. Its industry is naval and commercial; the locality however, is an agricultural one.

Barnstable (11,636) well-built, on the *Taw*, has paper, leather, and malting trade.

Bideford (6,953), prettily situated on the *Torridge*, has considerable shipbuilding, imports timber from America and the Baltic, sugar from the West Indies, and coals from S. Wales.

Exmouth (7,538), a watering-place enjoyable at all seasons from its climate, has been lately much improved by the erection of spacious docks, etc., and the building of tasteful residences in the vicinity.

* First erected, 1696; blown down in a hurricane, 1703; destroyed by fire, 1755. The present structure, which is a circular tower of stone 85½ feet high, strongly cemented together, and firmly cramped, was built 1759.

Ilfracombe (4,000), an improving watering-place, has a safe harbour, and a good herring fishery.

Torquay (18,000), on Torbay, is a delightful watering-place, with a mild climate, being sheltered by hills.

Brixham, on Torbay, is considered one of the mildest watering-places in England.

Dartmouth (4,978), an old town at the mouth of the Dart, was burned by the French in the reign of Richard I.

Tiverton (10,000), a town standing among hills on the river Esk, has manufactures of lace, a town-hall, and a theatre.

Honiton (3,000) has a similar industry. Its streets are well lighted and paved.

Cornwall,* whose mines have for centuries given employment to thousands, is a rugged county, with the most southern and most western points in England, with many barren high lands, an ungenial climate, and a light soil. Fishing is here a very important industry. The minerals, which are chiefly tin, copper, and lead, are mostly in the W. The E. is agricultural. The Land's End is nearly on the meridian of Dublin and Belfast. It is drained by the *Tamar* and *Camel*.

Bodmin (5,000), the capital, standing in the centre of the county, owes its importance to the mineral wealth in its vicinity.

Launceston (2,935), on the Tamar, in the extreme E., stands on the top of a small hill, and is a very ancient town.

Truro† (11,000), a well-built town, has extensive trade in tin, lead, copper mining and smelting works; hence called the mining capital of the county. It is the birth-place of the brothers Lander, the African travellers.

Liskeard (4,700), an improving town, is irregularly built.

Falmouth (5,294), with one of the best harbours, exports tin and copper; is the chief seat of the pilchard fishery, and was an important packet station.

Penzance (10,406), on Mounts Bay, the most westerly town in England, is noted for the mildness of its climate, and carries on a considerable traffic in the exportation of tin and fish, is the market town for a large agricultural district, besides being an active seaport. Sir H. Davy was born here.

St. Ives (10,000), with coasting trade and a pilchard fishery, is an

* In shape like a horn or cornucopia; hence its name.

† So called from the Cornish word *Truru*, which means "three streets."

old town on a bay of same name, where Perkin Warbeck landed to inflame the Cornish rebellion, 1487.

St. Austell, near a bay of same name, has rich tin and copper mines in its vicinity. Porcelain clay is also found here.

Somerset, with fertile valleys and hills running in parallel ridges, is a rich agricultural county, exhibiting every variety of soil and scenery. It is along the low lands near the coast that the famous "cheddar" cheese is produced. The valleys yield excellent crops of corn and grass; and its manufactures are important. Geese are reared in great numbers. In the north of the county coal and lead are found, particularly in the Mendip hills. It is drained by the *Avon*, *Parrot*, and *Tone*.

Taunton (15,000), with some good buildings, is the capital and assize town. There are some small silk and woollen manufactories, but the principal trade is agricultural. Imports of Welsh coal, and exports of agricultural and dairy produce are brought by the Bridgewater Canal. Here Monmouth proclaimed himself king, 1685, and here the inhuman Jeffries held the bloody assizes.

Frome (12,000) is 11 miles south of Bath, near Selwood Forest, on a river of same name; has manufactures of woollens and ale.

Bath* stands on the Avon; a well-built city, and a good market of beef, veal, mutton, etc.; contains a greater number of booksellers and circulating libraries for its size than any city of the empire. The waters, to which the city owes its origin, well known to the Romans, retain all their medicinal qualities, and attract numerous visitors, particularly fashionable invalids.

Weston-Super-Mare, a fashionable watering-place, on the coast, nearly opposite Cardiff, is the resort of many of the nobility, merchants, tradesmen, and inhabitants of the midland and western counties. It is the nearest English port to south Wales. Its climate is bracing.

Glastonbury (3,670), with ruins of an old abbey which once covered 30 acres, is now the seat of the shoe trade.

Bridgewater (12,000), near the mouth of the Parrot, produces excellent scouring bricks, called bath-bricks; is remarkable for the height of its tide, which sometimes forms a bore; has coasting-trade, and is the birth-place of Admiral Blake.

Wells (4,517), a joint bishop's see with Bath, is pleasantly situated at the base of the Mendip hills; and besides its cathedral, considered one

* It has been called "a city of terraces and crescents."

of the most superb in the kingdom, it has many attractions. The trade is at present chiefly retail; the silk and other manufactures, for which it was once famous, having been transferred to other places, and the corn market having declined considerably. But it stands in an important district, and is much frequented by visitors on account of its antiquities.

Gloucester, though generally classed as an inland county, on account of the great width of the Severn estuary here is also regarded as maritime. It is naturally considered under three heads: the *Hill*, which, though considerably elevated, has a moderate climate; the *Vale*, which extends along the Severn on both sides, consisting of a rich loam; *Dean Forest*, the largest in England, constitutes the third division, supplies most of the timber to the navy, and lies W. of the Severn. Lead, coal, and iron are found in large quantities; but agriculture and dairy farming constitute the special industry. Excellent cheese is made. It is drained by the *Severn*, the *Avon*, and the *Wye*.

Gloucester (18,330), the cap., with a magnificent cathedral, stands on the Severn, has extensive manufactures of flax, timber, and iron. Its commerce is increasing. It is the birthplace of Taylor, the water-poet, and Whitfield, the preacher. It has a large number of statues.

Bristol, a county of itself, is an irregularly built city, and ranks as our third great port; its trade with the S. of Ireland, S. Wales, the West Indies, and several other places, being most extensive. It has also numerous manufactories of glass, soap, copper, brass, iron, lead, and tin; and some floor-cloth factories, iron foundries, ship-yards, chain-cable works, and sugar refineries. It is surrounded by coal-fields. The public buildings are noteworthy. Its cathedral was originally part of an old abbey of St. Augustine. It was made a free port in 1848, since which the city has greatly increased. It is the birth-place of Southey the poet, Sebastian Cabot, and other important individuals.

Clifton, on a high rock, is a suburb of Bristol, has mineral springs, and a genial climate, and a much-admired suspension bridge.

Stroud (38,602), amidst the Cotswolds, has water celebrated for the dyeing of scarlet and other grain colours, on which account the clothing trade has been extended for upwards of 20 miles along the river Frome. It has woollen and fulling mills, and dyeing establishments, and produces the best billiard cloths. *Painswick*, *Bisley*, and *Durnsley*, are engaged in the cloth trade in this district.

Cheltenham, on the small river *Chelt*, delightfully situated in the vale of Gloucester, at the base of the Cotswolds, is celebrated for the salubrity of its air, and the medicinal properties of its waters. In summer the town is resorted to for its mineral springs, in winter it is frequented for its hunting and society, being a pleasure town. It has many fine public buildings, including a theatre, assembly, and concert rooms, and some good schools.

Cirencester (7,681), on the Churn, formerly a place of eminence, whose abbot had a seat in parliament, called the metropolis of the Cotswolds, and is the seat of the Royal Agricultural College. The district is chiefly agricultural, and a great wool mart; but carpets and cutlery are manufactured.

Tewkesbury (5,409), on the Avon, near its junction with the Severn, in the fertile vale of Evesham, was once famous for its monastery. It has manufactures of lace and hosiery, a grammar school, and some literary institutions. Here Edward IV. defeated the Lancastrians, 1471.

Monmouth* formerly in Wales, rich in minerals (coal and iron), combines of late years agricultural, mining, and manufacturing industry. It is moorland on the S., hilly in the W., with every variety of scenery. The *Usk* is the chief river; the *Rumney* divides this county from Glamorgan, and the *Wye* from Gloucester. Welsh is much spoken here.

Monmouth (5,874), on the Wye, is the chief town of this prosperous county, surrounded by the most magnificent scenery, is the centre of mineral wealth, and contains many elements of prosperity. It has a grammar school, and is the birth-place of Henry V.

Abergavenny (7,000), an old town among the hills, has an old castle of historical note, a grammar school, coal and iron trade.

Newport (26,957), on the Usk, now raises its head as an important commercial station by its exports of iron and coal, and within the last few years an extensive and increasing trade has arisen in coal for steam purposes, steel rails, and tin plates. Here the Chartist riots broke out (1839), under Frost.

Chepstow, a fast improving town near the mouth of the Wye, with trade in timber, iron, coals, wines, and cider, has the highest tide in the British Isles, which often rises to 60 or 70 feet. Here on a rock, on the river's brink, stands an old castle, an impressive ruin.

Pontypool (5,000), a town N. of Newport, is the place where the

* In this county and Brecknock, large and useful mules, the finest in the kingdom, are much used, and the Spanish breed has been successfully introduced.

art of imitating Japan varnish was discovered. It has extensive iron and coal trade.

Tredegar (10,000) is famous as a coal and iron seat.

Hereford, famous for its cattle, hops, and wheat, produces much cider. The surface traversed by the Wye is richly wooded, orchards cover extensive districts. The Malvern hills touch the east border, and many other hills are found in the county; a good loam soil is in the lowlands.

Hereford (18,355), an episcopal city, with a cathedral and some fine public buildings, stands on the Wye; has manufactures of leather gloves, hats, flannels, and cutlery; and trade in cider, hops, corn, wool, bark, and timber. In October the largest fair in England for cattle and sheep is held in this city; many orchards surround it. It is the birthplace of D. Garrick. and General Havelock.

Leominster (6,000), with narrow streets, on the small river Lugg, in a fertile vale, has trade in hats, cider, hops, and coarse cloth.

Ledbury (5,000), near which are some marble quarries, has trade in hops, perry, and cider.

Shropshire, with a level surface and fertile soil in the N. and E., is hilly in the S. and W. The Wrekin rises 1,300 feet, and the Corndon mountain 1,700 feet, above sea-level. The Severn, running from W. to S.E., divides it into two almost equal portions. This county produces pitch and tar in abundance. Colebrook-dale, with large iron-works, runs along the Severn between two nicely-wooded hills, and has a coal-field. It has also some moors and bogs, or mosses. Agriculture is the chief occupation of the people; but iron, coal, and lead constitute valuable industries.

Shrewsbury (23,300), on the Severn, has a grammar school, founded by Edward VI.; manufactures of linen, thread, canvas, and iron-ware; an extensive trade in coal, and a salmon fishery. It has some handsome churches; and here Harry Hotspur fell, having been defeated by Henry IV., 1403. It has a good market of provisions and Welsh flannels. Its cakes are much esteemed.

Oswestry (7,308), near the borders of Wales, so named from the Saxon king, Oswald. Its manufactures are coarse linens and woollens.

Ludlow (5,087), on the Teme, is a well built town in the midst of a fertile country, has a grammar school, museum, and other public buildings.

Bridgenorth, on the Severn, has been long famous for its gunsmiths.

Wellington has coal mining, metal, and glass works. Some mineral springs are in the vicinity. Its college is well known.

Stafford may be treated under three heads : the district of the Potteries in the N., the great coal and iron district in the S., called the *Black Country*; and the agricultural district in the centre. The prominent features of the Potteries are universal stacks of bricks, collieries, and foundries. Along the course of the Dove, excellent grazing land abounds; moorlands are found in the N.W., where some hills rise 1,000 to 1,200 feet. In this county, there are two coal fields; also marls, pipe-clay, and ironstone, are found. It is the seat of the manufacture of china and earthenware, and has a rapidly rising iron trade. It is drained by the *Trent* and its tributaries, the *Scw*, *Lyme*, and *Dove*.

Stafford (14,437), on the Sow, the county town, and one of the principal stations of the London and North-Western Railway, is neatly built, and is the largest railway centre in the county, lines radiating from it in six different directions. The staple trade of the town is the manufacture of boots and shoes, tanning and brewing. It has some good public buildings.

Wolverhampton, a place of great antiquity, the most populous and wealthy town in Staffordshire, is famous for its manufacture of locks and keys, hardware, japanned ware, and heavy iron articles. There are numerous furnaces for smelting iron in the immediate neighbourhood. Of the iron and coal district, in the S. of the county, Wolverhampton may be termed the metropolis.

Wednesbury, very much engaged in the iron trade, produces axles, wheels, girders, iron and brass tubes for locomotives, saws, harness, grates, and guns. It has numerous good schools.

Bilston, an improving town on a hill, has, in addition to the above, steel and japanned wares, foundries, forges, and slitting mills.

Walsall has manufactures of saddlers' ironmongery, the most extensive in the kingdom; iron bedsteads, spectacle-frames, and small steel goods are largely produced. It has a grammar school and many public buildings.

West Bromwich is now very industrious in the iron and coal trade.

The gas works are the largest known, and supply gas sixteen miles around.

Hanley, the central town of the Potteries, is two miles from Newcastle-under-Lyne. Within a radius of five miles there is a population of 160,000 persons, employed in the pottery, glass, coal, and iron trades. The district around is almost exhaustless in coal and ironstone. It has a school of art, several religious edifices, and a mechanics' institute; a town-hall, museum, and cattle-market.

Burslem, on an eminence, is well-built and much engaged in china and glass making. It has some good public buildings.

Stoke, in the Potteries, has also extensive trade in iron and coal, and comprehends many townships. It has many fine churches, chapels, and schools.

Newcastle-under-Lyne, with broad paved streets, has cotton factories, manufactories of hats, and potteries, iron works, and large collieries in the vicinity. It has many public buildings, including a grammar school.

Leek, a town with silk manufactures, is well-built on an eminence. Is a seat of the iron trade, and has manufactures of twists and ribands. It has many benevolent institutions.

Cheadle has manufactures of tape, brass, tin, and copper. It is on the Tean, in the midst of plantations.

Tamworth, the capital of the Mercian kings in Saxon times, is a railway centre, on the Tame, with brick-making, brewing, and dyeing. It has a grammar school and many benevolent institutions.

Burton-on-Trent, consisting of two principal streets, has manufactures of cotton goods, hats, and iron-works. Its ale is universally esteemed, and its breweries are the largest in the world.

Lichfield (7,380), the birth-place of Dr. Johnson, has a cathedral and a grammar school. This city stands in a fine valley.

Worcester, with rich pastures in the valleys, has several hills, two of which run nearly parallel. The Malvern hills, running on the W. parallel to the Severn, are green to the summit, and afford good sheep pasturage. The Clent hills run towards the E. of the county. The *Avon*, *Stour*, and *Severn* drain the county; the latter running through it from N. to S. Apples, pears, potatoes, and hops, are largely produced. The climate is dry and the rainfall very small compared with other districts.

Worcester (33,221), a well-built, pleasant city, in a nice country, with broad streets, has a cathedral and many other places of worship;

a theatre, library, and a grammar school. It is noted for its manufacture of gloves and porcelain; vinegar, sauces, lace, and manures. In 1651 Cromwell, with 30,000 men, here defeated Charles II.

Bewdley (3,000), near the Severn, is a well-built town, with manufactures of carpets, combs, and some iron and brass works.

Bromsgrove, with a rich grammar school, is famous for its manufactures of buttons, nails, and needles.

Dudley, one of the most important business towns in the Midland Counties, has extensive manufactures of iron, besides trade in limestone and coal. Glass is also manufactured in considerable quantities. It is in a detached part of the county, and surrounded by S. Staffordshire. Its castle sustained a siege by the Parliamentarians. In the vicinity spas exist.

Malvern (5,000), one of the most fashionable and best frequented watering-places, is situated on the eastern declivity of the Malvern Hills. The admirable quality of the water, and the fame of its numerous physicians, attract great numbers of persons, while its many natural beauties render it a favourite resort to pleasure-seekers even in the winter. It has a college.

Redditch (6,000) has manufactures of needles, producing 70 or 80 millions per week; it also produces fishing tackle.

Kidderminster (22,000), on the Stour, has great carpet manufactures, a grammar school, and other public buildings.

Droitwich (6,000), with prolific salt springs, and *Stourbridge* (10,000), with crucibles, are industrious towns.

Warwick, divided into two parts by the Avon, has rich soil, a mild climate, and combines mining and manufacturing industry with agriculture. It is very much a level county of an oval shape, and has some fine plantations, and a small coal field. Several canals traverse this county, forming convenient means of transport before railways were introduced.

Warwick (11,000), an ancient town, burnt in 1694, but beautifully rebuilt on an eminence near the Avon, has many ancient monuments and buildings; the most important is Warwick Castle, the residence of the Earls of Warwick, standing on a rock forty feet in height. Cæsar's Tower, supposed to be the most ancient part of the fabric, is 147 feet high. Guy's Tower, at the north angle, 130 feet high, was erected in 1394. The interior is remarkable for its splendour and elegance. In the green-house is the celebrated Warwick Vase, presented by Sir W. Hamilton, and capable of containing 163 gallons, being 31 feet in circumference.

Birmingham, in the N.W. of the county, on the Rea, is a great industrial seat, with the most extensive manufactures of machinery, fire-arms, etc., in the world. It stands on the side of a hill, nearly in the form of a crescent: its lower part is formed of workshops and warehouses, etc., the upper of regular and handsome buildings. In the time of Henry the Eighth it was chiefly inhabited by "smiths that use to make knives, and all manner of cutting tools, and lorimers that make bittes, and a great many nailours." The manufacture of fire-arms was introduced after the Revolution in 1688, and has increased with amazing rapidity. Swords and accoutrements are manufactured in large quantities. The button manufacture, and that of light and heavy steel goods, and steel pens, as well as iron and brass foundries, glass-cutting, die-sinking, electro-plating, edge-tools, agricultural implements, lamps, and gasaliers, iron bedsteads, and laminating, are carried on to an enormous extent. Most of the merchants and manufacturers have their residences in the vicinity of the town, and many of these display much architectural taste. The machinery made use of in the manufactures of Birmingham, will ever rank among the highest productions of human ingenuity, and the most valuable inventions of the age. Priestly, Hutton, and Watt, long resided here. It has a grammar school, park, and council-hall.

Coventry,* a city and county of itself, consisting of the city and municipality, is celebrated for every style of plain and fancy silk ribbons, gimp-trimming, and silk plush; for the manufacture of watches, and for its dyeing establishments. The surrounding villages are engaged in similar industries.

Rugby (14,000), pleasantly situated on the Avon, has a popular school. It has some good buildings, fine streets, and modern houses; is a great railway centre.

Stratford (6,000), on the Avon, is the birthplace of Shakspeare, and the place where he died; it has a grammar school.

Leamington (22,000) is celebrated for its twelve medicinal springs, and has a great hunting season from October to June, when the town is very full of visitors. It is handsomely built, having broad streets, nice squares and crescents.

Kenilworth, neatly built, has the ruins of an old castle, formerly the seat of Simon de Montfort. Here for seventeen days Queen Elizabeth was entertained by the Earl of Leicester, at the cost of £1,000 a day, equal £5,000 of our money. Some fine public buildings, including a grammar school, exist.

Leicester, with gently rising hills, has a rich soil in the S.W.: but in N.E., where a light soil is found, it is rather

* Its walls, in 1662, were demolished by Charles II.

poor. It produces the largest sheep and coach horses ; and more than half the land is under pasturage. Green crops are largely produced, and much cheese is made in its extensive dairies. Its rivers are : *Avon*, *Soar*, *Anker*, and *Welland*, all of which rise in the W. of the county.

Leicester, on the *Soar*, is the first commercial town of importance on the railway route between London and the North. It is a place of very great antiquity, having been a city in the time of the Heptarchy. It employs a great number of persons in combing and spinning wool, and manufacturing it into articles of hosiery, in making elastics for boots, and lace. It has excellent schools. Here Cardinal Wolsey died, 1530. It was besieged and taken by Charles I., 1645.

Loughborough, among fertile meadows on the *Soar*, has manufactures of woollen and cotton hosiery, lace, millinery, boots and shoes.

Ashby-de-la-Zouch, a nice town with a good market ; coal and ironstone are worked in the neighbourhood ; it has manufactures of hats and hosiery, and a grammar school.

Hinckley, a well built town, has Roman remains and extensive manufactures of coarse hosiery.

Melton Mowbray is a handsome town, with extensive stabling for the fox hunters who frequent it. It also makes pork pies for the London market.

Lincoln, a very flat county, with about 112 miles of a low marshy coast, has every variety of soil, and is greatly enriched by an improved system of husbandry. It produces splendid oxen of a large size ; and the rearing of cattle is a staple industry, most of the fens now being rich pastures. This county supplies London with many of its rabbits, poultry, and wild fowl. Its surface presents three natural divisions : the *Fens*, now protected by firm embankments from the sea, which formerly inundated them, are highly productive ; the *Heaths*, lying between the Humber and Grantham, more elevated, are well cultivated ; and the *Wolds*, which run N. W. to the Humber, also produce good crops. The *Witham* has most of its course in the county, and the *Trent* and *Welland* also run through it.

Lincoln (26,762), the cap., an ancient city, stands on the Witham, on the slope of a hill. The cathedral, on an eminence, is one of the most magnificent buildings of the kind in Britain. Its bell is well known as the finest in England. There are extensive corn mills and iron works, linseed cake, manures, and hides for tanning are extensively imported; an enormous coal, wool, and corn trade is carried on. Its horse fair is celebrated. The "battle of Lincoln," in which Stephen was taken prisoner, occurred in 1141, and the defeat of the French called the "Fair of Lincoln" in 1217.

Spalding (23,000) is in an extensive agricultural district; it is also a port, being about eight miles from the Wash, on the Welland, by means of which it carries on a considerable trade in corn, coals, wood, flax, and hemp; and has a large cattle market.

Boston (15,576), a thriving town, on the Witham, carries on an extensive trade with the north of Europe in deals, battens, hemp, iron, and linen. It imports coals from Sunderland and Newcastle, and manufactures agricultural machinery; it has a grammar school.

Grimsby (20,238), on the Humber, has a fine harbour, extensive ship-building, and fishing trade.

Louth (10,500), on the Ludd, has carpet making, foundries, tanneries, traffic in coal and grain; a corn exchange and grammar school.

Grantham (5,000), is a fine town on the Witham, with agricultural industry, and manufactures of much esteemed cakes.

Stamford (7,846), handsomely built, with trade in malt, coal, and freestone, is in the centre of an agricultural district.

Horncastle, on the Bane, has a magnificent horse fair, and trade in corn, leather, and wool.

Gainsborough (7,000), on the Trent, has extensive iron works.

Rutland, the smallest county in England, is well watered by the *Welland* and many smaller streams. Corn and pasture land abound. The surface has open valleys running E. and W., and separated from one another by low hills and gentle elevations, particularly in the north-east.

Oakham (3,000), on the vale of Chatmoss fairly built, has an ancient castle, and a grammar school.

Uppingham (2,000) has a large school, and some agricultural trade.

Nottingham consists of a broad valley, very fruitful on the E. where a clay soil exists, but rather woody and unfruitful on the W. The climate is remarkably dry. Its

agriculture has lately been brought to great perfection, as well as its cattle-rearing. Sherwood, the only royal forest N. of the Trent, has much declined in extent. A small portion of the S. Yorkshire coal field runs into this county. Some good orchards and market gardens are found. It is drained by the *Trent*, and its tributary the *Idle*.

Nottingham, on a rock of soft stone, is a seat of the silk and cotton, hosiery, and lace manufactures. There are silk and cotton mills, and establishments for dyeing and bleaching. Tanning of leather is also carried on extensively. A great malting trade exists, and a large business is done in corn and flour. Here Charles I. raised his standard, 1642. It has a grammar school.

Newark (12,000), on an island in the Trent, has manufactures of sheeting, and other goods; and exports largely malt, corn, wool, gypsum, and limestone. It has a grammar school. Charles I. here gave himself up to the Scots, 1646.

Mansfield (9,000), an ancient and populous town on the borders of Sherwood Forest, is in the centre of a large manufacturing and mining district. It has a hosiery trade, iron foundries, malting, linen and flour trade.

East Retford (3,194), on the Idle, contains a town-hall, a theatre, and a news-room.

Worksop (8,000), in a well wooded valley, near the River Rayton, has trade in corn and malt.

Derby, is mountainous and hilly towards the N. and W. including the district of the Peak, which has four summits above 700 feet in height, and is remarkable for its caverns, about which many stories are told to visitors by the inhabitants of the district. The highlands are intersected by narrow valleys. Rich grain crops are produced in the level districts, and lead is found in the elevated regions. Many woods and coppices exist in Derby, and in general the farms are small, and mode of cultivation antiquated. It has great mineral wealth. It is drained by *Derwent*, *Dove*, and *Trent*.

Derby, on the Derwent, is famous for its silk manufactures; there are also several cotton factories and porcelain works. Here all kinds of ornaments are made of the marble and spar found in the vicinity. Many are employed in the lapidary and jewellery branches, trade

in malt, and rolling mills. It has a grammar school, and many public buildings. Foundries, tanneries, soap works, and bleaching grounds exist. Here in 1745 the Pretender halted and returned to the north.

Belper, with large cotton manufactures, stands on the Derwent, is a flourishing town, with many chapels and churches.

Buxton lies in a pleasant valley on the Wye, surrounded by hills. It is one of the wonders of the Peak, having nine wells, whose waters are hot and sulphurous, yet not fetid, but palatable, creating an appetite. Their temperature is said to be more agreeable for bathing than the waters of Bath, and they are very efficacious in rheumatic complaints. It has a library and an assembly room.

Glossop (17,000), an important town near the Peak, is active and industrious, has cotton, woollen, and paper manufactures, and calico printing.

Matlock, a town much frequented for its beautiful scenery and its baths, is situated in a picturesque and attractive valley, surrounded by romantic hills.

Chesterfield (11,426), an important town on an eminence, stands very pleasantly on the Rother. It has extensive coal works, iron foundries, lace, cotton, silk, and worsted manufactories, extensive malting establishments, machine works and potteries. King John made it a free borough. It has a free school, and a good agricultural market.

Hertford, the greatest malting county in England, is remarkable for its agricultural improvements. It has no lofty hills, the surface being undulating and much covered with wood. The climate is mild, and many orchards exist. It is watered by the *Lea* and *Colne*.

Hertford (7,164), the chief town, on the Lea, is a place of considerable antiquity, and does a large malting trade. Here King John of France, and King David II. of Scotland, were at the same time imprisoned in the reign of Edward III.

St. Alban's (8,303), a very ancient town, has some splendid churches and public buildings. Here the Lancastrians were defeated, 1455; and here, in 1461, the Yorkists were defeated by Queen Margaret.

Ware, on the Lea, is an important corn market, and supplies London with water and malt. It was the scene of John Gilpin's adventure.

Watford, on the Colne, has a good corn and live stock market.

Buckingham, irregular in shape, is undulating in the S., but crossed in the N. by the Chiltern hills, N. of which

are the richest pastures, from which London receives much butter, and fat cattle. The *Chiltern hills*, once covered with beech, and rising to the height of 820 feet at Nettlebed, give name to a nominal office enabling a member of Parliament to vacate his seat. They rise to 900 feet, under the name of Wendover hill. Some paper is made; but agriculture is the staple industry of this county, which is drained by the *Thames* and *Ouse*.

Aylesbury (28,760), which has broad handsome streets, is the capital, and has some silk factories; and is the place of nomination at elections for the county. Its excellent breed of ducks is far-famed.

Buckingham (3,703) has a low situation on the Ouse, and though an ancient town, is of little importance. Bone-lace is the only manufacture.

Wycombe, or **High Wycombe** (4,811), with paper mills, lace, and upholstery trade, is a small borough.

Eton, opposite Windsor, on the Thames, has long been celebrated for its college, now attended by above 800 pupils. It was founded by Henry VI., 1440.

Great Marlow (6,619), with many paper mills, stands on the Thames.

Olney, on the Ouse, is a market town, with agricultural trade.

Oxford, a rich midland county, is hilly and woody on the S.E., elevated and stony in the N.E., but rich and fertile in the centre, wheat, barley, and oats being largely raised. Much dairy farming is carried on. It is drained by numerous streams, tributaries of the Thames. The Chiltern hills, a range of chalk, run through the S.; Edgehill is on the borders of Warwick; Whichwood forest, once a wooded tract, is on the W., and produces some forest marble.

Oxford (31,554), the capital, the seat of the largest University in the United Kingdom, and one of the most celebrated in Europe, is a clean city, and a bishop's see. It derives its chief support from the University; but has also a brisk transit trade in iron and coals. Its streets are straight and well paved. Parliaments were often held here. The city stands between the streams Cherwell and Isis, and is noted for its beauty and the number and variety of its public buildings. It has botanic gardens, and an observatory.

Henley (4,000), on the Thames, is a handsome town, with a town-hall, and a theatre.

Witney, on the Windrush, a tributary of the Thames, has long been noted for its blankets.

Banbury (4,106), on the Cherwell, is famous for its cakes, cheese, and ale. It has plush and girth manufactures, iron and timber works. Here the Yorkists were defeated in 1469, the Earl Warwick defeating Edward IV., near this town, at *Edgecote*.

Woodstock (7,477), on the Glyme, with a handsome town hall, is famous for its manufacture of leather gloves; and near it is *Blenheim*, built and presented by a grateful nation to the great Duke of Marlborough.

Northampton, the only county in the British Isles touched by nine others, has good tillage and pasture land, with an undulating surface, well wooded and watered. Extensive forests and plantations distinguish it from the neighbouring counties: three forests may be mentioned:—Whittlewood, or Whittlebury, Salcey, and Rockingham. The ground rises towards the N. and N. W., with a gradual slope towards the S. The *Nen*, *Welland*, *Avon*, and *Ouse*, drain this county. The climate is mild, and the soil various but productive.

Northampton, is a handsome and well-built town, containing many public buildings, and a fine spacious market-place. The principal manufacture is that of boots and shoes. It has also lace and hosiery, leather-dressing, saddlery, and iron-foundries. Its horse fairs are much frequented. It was burned in 1675. In 1460, the Earl of Warwick here defeated the Lancastrians.

Peterborough (17,429), on the Nen, once the seat of a rich abbey, on the borders of the Fen district, has a cathedral, and is surrounded by numerous monastic remains of great interest. It has an excellent grammar school, is a most important railway centre, and the seat of large and increasing markets.

Wellingborough, on an eminence near the Nen, has trade in corn, boots and shoes, and lace. It is regularly built in modern style, having been nearly destroyed by fire in 1738.

Kettering, on the Nen, is well-built, has some splendid public buildings. It is a great seat of the boot and shoe trade. It has also wool-stapling, and manufactures plush.

Huntingdon,* a part of which belongs to the Fen district, computed at 44,000 acres, of which 12,000 are pro-

* Called by the Saxons, *Hunter's down*.

ductive, has a fertile soil, with rich pasture lands. It is drained by the *Nen* and *Ouse*. Whittlesea-mere, a sheet of water 2 miles long, and $1\frac{1}{2}$ broad, is in the N. E., and being now drained, produces luxuriant crops.

Huntingdon (4,242), the capital, stands on the Ouse on a rising ground, has trade in malt, wool, and corn. It has a grammar-school. It is the birth-place of Oliver Cromwell.

St. Ives (3,500), on the Ouse, has good cattle and sheep markets, and malting. Here Cromwell resided as a farmer.

St. Neots, a nice little town, has paper manufactures.

Bedford, nearly oval in form, is a small county, whose industry is principally agricultural, with a little straw-plait manufacture. Rich dairy farming prevails, and good crops are raised from its fertile, deep clay soil. A continuation of the Chiltern hills traverses it towards the S. It is drained by the *Ouse*, *Ivel*, and *Lea*.

Bedford (17,000), a good grain market, in a fertile tract on the Ouse (called the Vale of Bedford), has been celebrated for its manufacture of lace, and carries on an extensive trade in corn, coals, timber, and malt. A free education is given to children of inhabitants of all classes, in a series of schools, where eight exhibitions to college are annually given to the most deserving pupils.

Biggleswade, on the Ivel, with a good grain market, has manufactures of thread-lace, and straw plait.

Dunstable (4,558), on the Dunstable chalk downs, may be considered the seat of the straw plait industry.

Leighton-Buzzard, on the Ousel, has lace and straw plait manufactures. It has a handsome corn-exchange.

Luton, on the Lea, is pleasantly situated between ranges of the Chetham-hills, and employs many families in the manufacture of straw hats and bonnets.

Cambridge includes the island of Ely, a marshy district lying N. of the Ouse in the Fen region ; though marshy and fenny, it is now drained and become arable and splendidly tilled, and produces admirable oats and barley. This county is remarkably level, and its towns are situated on small elevations. It is drained by the *Ouse*, and its tributary the *Cam*.

Cambridge (30,740), on the Cam, derives its importance entirely from its celebrated University, consisting of seventeen colleges and halls situated in different parts of the town. The streets of the town are rather narrow.

Wisbeach (9,378), well built, on the Nen, is the port of Cambridge-shire. On account of the improvements in the river's navigation, it has risen to importance; holds a very prominent position in the Fen district, and is surrounded with populous villages, nearly all the inhabitants being engaged in trade, commerce, and agriculture.

Ely, on a hill in the midst of a fenny plain, is the only English city that has no member of parliament.

Newmarket, on the borders of Suffolk, is well known on account of its races, which are held on a fine heath in the neighbourhood, the best race-course in England. It has splendid public buildings; great horse-training establishments in the vicinity; malt and beer are the manufactures.

Middlesex, the metropolitan county, is perhaps the most important of the forty English counties, though only two others, Rutland and Huntingdon, are smaller. The soil is, for the most part, gravel. Around London numerous nursery gardens, green-houses, noblemen's seats, and every other offspring of taste or luxury, are found. The gently waving surface is well adapted for agriculture, though the soil, with the exception of a deep loam near the Thames, is naturally poor. The *Thames* forms its southern, the *Colne* its western, and the *Lea* its eastern boundary. A range of small hills protects the metropolis from the N. wind.

London* (3,251,000), the metropolis in many respects of all the world, stands on a plain through the centre of which runs the Thames; it is surrounded by hills of moderate height, and usually spoken of under five heads:—the *City* (74,732), containing the bank of England, the Mansion House, and the Royal Exchange, is the centre of the monetary transactions, of numerous and valuable commercial and manufacturing industries; the *East End*, lying further down the Thames, is engaged in everything connected with shipping; the *West End*, containing

* Formerly walled and entered by seven gates—Ludgate, Aldersgate, Aldgate, Cripplegate, Newgate, Moorgate, and Bishopsgate; and on the W. a gate called Templebar, which still remains. The population of the city proper is fast declining from year to year; the immense multitudes who here transact business, prefer to sleep in the outlets of London.

the club houses, and most of the theatres, with hundreds of handsome streets, and thousands of handsome shops, is principally occupied by the aristocracy and a few of the fortunate in professional life; *Southwark*, called the *Borough*, lies south of the Thames, abounds with numerous manufactures, hop and grain stores, breweries, distilleries, and tanneries, and is chiefly occupied by the industrial classes; *Westminster*, containing the Abbey, Parliament Houses, Law Courts, Buckingham palace, is a great centre of fashion, containing the town mansions of many of the nobility.

The public buildings are too numerous to mention—St. Paul's, Somerset House, the General Post-Office, British Museum, the several palaces, churches, theatres, and hotels are worthy of admiration.

Three distinct commercial industries exist—the foreign trade and wholesale trade of the port; the manufactures (glass, soap, silk, books, gloves, hats, etc.) of every variety; and the retail trade, which is unlimited in extent and variety.

The suburbs of London extend into Kent, Surrey, and Essex; and it is computed that the annual savings of the inhabitants of London exceed twenty millions of money.

To give even a condensed description of London, would require a volume of a very considerable size.

Uxbridge (5,346), whose inhabitants are engaged in the corn trade, furniture making, etc., stands on the Colne.

Staines (10,338), about 14 miles from London, stands on the Thames.

Brentford (2,2079), the place of election for the county, has a handsome town-hall, a brewery, distillery, and saw mills. It is on the Thames, and has trade by the river.

Harrow (10,867), about 10 miles N. of London, has an excellent grammar school.

Enfield (16,053), in the midst of delightful scenery, contains a government small arms factory.

Bromley, on the E. of the county, has distilling and calico printing. Many of its inhabitants are engaged in the dock yards in the neighbourhood.

Hampton, with its palace, called *Hampton Court*, not used as a royal residence since the time of George II., has delightful gardens open to the public, and stands 12 miles from London.

W A L E S .

WALES, consisting of twelve counties, lies on the W. of England proper, being bordered by the English counties of Cheshire, Salop, Hereford, and Monmouth. The surface is extremely mountainous and hilly, many beautiful valleys lying between the elevated ridges. Minerals abound, particularly in the north and south of the country. Much more rain falls in Wales than in England, the average in the former being 34 inches, while that of the latter is only 23 inches. The soil, owing to the rugged nature of the surface, is much better adapted for pasturage than tillage. The scenery in many places is most romantic and charming.

Flint, penetrated by Denbigh, has rich mines of coal and freestone in the valleys, lead, limestone, and calamine in the hills, and is the least of the Welsh counties. The N. produces wheat, but mining and smelting are the chief industries. Its lead mines are the richest in the United Kingdom. Butter, cheese, and honey are produced, and tiles and bricks are made. It is drained by the *Clwyd*, *Dee*, and *Wheeler*.

Mold (3,000) on the Alyn, is the cap. Great quantities of coals are shipped from Flint (4,000). In its castle, now in ruins, Richard II. was imprisoned by the Duke of Lancaster, 1399.

Holywell, a thriving industrial town, is built on the declivity of a hill. It has manufactories of cottons and galloons, large smelting houses, extensive lead, copper, and zinc mines, in the neighbourhood. It is so named from St. Winnifred's well, the most prolific spring in the world. It throws up 85 hogsheads of clean water every minute.

St. Asaph, on the Clwyd, is a small city, with a cathedral built of wood in 596 by St. Asaph, and rebuilt in 1770.

Denbigh, is rugged, wild, and mountainous, with much rain, and some excellent scenery. Lead mines abound

the famous vale of Clwyd runs through it for 17 miles, and is very productive. It is drained by the *Dee*.

Denbigh (6,322), on a rocky hill, is a small town, formerly walled.

Ruthen, in the vale of Clwyd, has the remains of an old castle.

Wrexham (8,576), the largest town in N. Wales, has extensive flannel-making, some paper mills, and lead and coal mines in the vicinage.

Carnarvon, is the most mountainous county in Wales. Contains immense quantities of slate; between 200,000 and 300,000 tons, are annually shipped from Bangor and Carnarvon. Its rocks are stupendous and sharp. On the hills a small kind of cattle graze. A few fertile tracts are found on the banks of the Conway.

Carnarvon (9,370), the capital, is an ancient town, partly on the Menai Strait and partly on the estuary of the Seiont; carries on considerable trade with London, Liverpool, Bristol, and Ireland. The industries are principally agricultural. and that portion of Merionethshire bordering on it, produces slate. In the counties of Flint and Denbigh there are extensive iron, lead, zinc, and coal works.

Bangor (7,000), delightfully situated, a pleasant secluded bathing-place, is the favourite resort of multitudes in the summer season, and the head-quarters for tourists to all parts of North Wales. It is built between two ridges of rock, with a fine opening towards the sea; and beautiful mountain and water scenery is seen from the summit of the hills on either side.

Conway (3,000), on the river of same name, is a fine old town, has an old castle standing on a rock. The chief attractions of the neighbourhood are Stephenson's wonderful tubular bridge,* and Telford's charming and fairy-like suspension bridge over the Menai Strait;† the slate quarries are productive. Llanberis, Snowdon, Carnarvon Castle, Aber Waterfall, etc., are attractions in the vicinity.

Anglesea,‡ with a rocky circumference of 80 miles, has

* The *Britannia Tubular Bridge*, 1560 feet long, may be described as a huge double barrel of a gun, the train running slowly through one barrel, and on the return journey proceeding through the other. These tubes, made of wrought iron plates, riveted together, rest on massive pillars, one being placed in the centre on a rock. In 1848, Stephenson erected another tubular bridge across the Conway.

† This bridge, standing 100 feet above high water, was erected by Telford in 1826, for the mail coach. It is 550 feet long, and 20 feet broad, fastened in the rock, and suspended by 16 immense chains.

‡ Called *Mona* by Tacitus, *Arvon* (the farthestmost isle) by the Britons; it was a great seat of the Druids; attacked by Paulinus, the Roman commander, in A.D. 61, and many of the sacred groves cut down. The Saxons gave it the present name, which means "Englishman's Island."

two good harbours—Beaumaris and Holyhead; a soil, when well tilled, not unproductive; with a mild but foggy climate; a surface bare and in some places rocky. Numbers of small cattle are fed. The coasts have good fisheries, and copper and marble abound. Holyhead Island has a wild and rocky N. coast frequented by eagles. It is only an island at high water.

Beaumaris (2,234), the capital, on the Menai Strait, has sea bathing and coasting trade.

Amlwch, on the N. coast, has the copper mines in its vicinity.

Holyhead, on Holy Island, is the packet station for Ireland.

Merioneth, hilly and mountainous, with many deep valleys, has a poor soil and scanty pasturage, on which small ponies and cattle are fed. Its towns are very small.

Dolgelly, romantically situated at the foot of *Cader Idris*, is a lovely little town amidst mountains, lakes, and waterfalls.

Bala, on lake of same name, is a clean town.

Harlech, near the coast, has greatly declined.

Barmouth, a small port, is a place for sea-bathing.

Montgomery, the best wooded portion of Wales, is a compact county; contains **Plinlimmon**, a high mountain with good pastures on its sides; many bleak moor lands are found in this county, and hardy ponies graze on the hills. It is drained by the *Severn*.

Montgomery (1,000), the capital, has the remains of two castles; is a town of great antiquity, with flannel trade.

Newtown (6,000), another station of the flannel manufacture, stands on the *Severn*, in a valley.

Welshpool (5,000), on the *Severn*, has a trade in flannels and malt.

Llanidloes (3,426), also on the *Severn*, has a similar industry.

Cardigan, lying along a bay of the same name, is level and fertile towards the coast and mountainous inland. It has lead mines; produces copper, zinc, and slate, and some silver.

Cardigan (3,535), the cap. is a small town on the *Teify*, with active trade, and a herring fishery.

Aberystwith (7,000), overhanging the sea, has a most salubrious situation, is a favourite watering-place, has a herring fishery with some coasting trade, iron and coal mines.

Lampeter, on the Teify, is a small town. The only Welsh college, called St. David's, is in this town.

Pembroke, with a ridge of hills running across the county from the coast, is mountainous, but has many easy slopes, and some valleys. The scenery is in many places magnificent. Two large inlets are found on the coast.

Pembroke (13,741), the seat of one of the Government dockyards, was the birth-place of Henry VII.

Tenby (3,000), a modern watering-place, is romantically situated on a projecting promontory, exports oysters, corn, and butter.

Haverford West (7,000), picturesquely situated on the banks of the West Cleddan, is an active little port with convenient quays.

Milford (3,000), with a deep bay, was formerly the seat of the dock-yard, and is the packet-station for S. of Ireland.

Carmarthen, mountainous and woody, healthy and fertile, has many long narrow valleys. Though coal, lead, and iron abound, the most important industry is agriculture. It is drained by the *Tawe* and *Towy*.

Carmarthen (10,499), the capital, is a well-built and populous town on the Towy, which admits vessels of moderate burthen. The district around is important, on account of its numerous copper and tin works, with coal and lead mines. The town has some fine public buildings.

Llanelly (11,446), a flourishing town with increasing trade, has collieries, and coasting trade.

Llandovery (1,861), surrounded by wild and barren hills, is an important town.

Kidwelly, once walled, has an ancient castle.

Llandello, on the Towy, has a nice situation, and is clean, and healthy, though badly built. It was once the abode of the Welsh princes.

Glamorgan, the largest county in Wales, is principally noted for its profusion of coal, iron, and limestone; its mineral wealth having caused towns to rise and manufactories to be built in the most dreary regions.

Cardiff (39,625), the cap., the great outlet for the surrounding coal and iron district, on the Taff, has a commodious harbour, and a very lively coasting trade, manufactures of iron and tin plates, and coal works; has capacious docks, and its exports are considerable. In its castle Robert of Normandy was confined 21 years by his brother Henry. It has a new town-hall, merchants' hall, crown court, etc., and belongs to the Marquis of Bute.

Merthyr Tydvil,* a great mining town, the largest in Wales, stands in the N.E. corner of the county, on the Taff, among rugged and bleak looking hills. It has the largest smelting furnaces in the world, in one of which 1,000 tons of coals are daily consumed; these with forges, rolling mills, etc., produce an amazing nightly glare for miles around. This town is under very imperfect sanitary arrangements, and with the exception of barracks, and a poor-house, on important public building can be seen. The streets are irregularly built, and the town is badly supplied with water.

Swansea, on a rising ground, on the W. side of the Tawe, the mouth of which forms an excellent port, with piers, quays, large floating harbour and docks, and every other accommodation for traffic, is the greatest copper market in the world, the ore being brought here from all parts for sale and smelting. It has extensive potteries and china works, and carries on a large trade in coals, patent fuel, copper, lead, iron, silver, and tin. Gower, the poet, and Beau Nash were born here.

Neath (9,134), on a stream of same name, is a busy place in coal and iron, and has also copper smelting.

Llandaff, with an old cathedral, is more like a large village than a town, and forms a place of transit trade.

Brecknock, crossed by a chain of hills called the *Epynt*, S. of which is delightful scenery, is on the whole a very hilly county: Brecknock Beacon rising 2,682 feet, Trecalet Beacon, 2,594 feet, near the source of the Usk. Coal is found near the southern border, and limestone on the W. Small cattle and black sheep abound on the hills. It is drained by the *Usk* and its tributaries.

Brecknock (6,000), in the midst of beautiful mountain scenery, on the Usk, is the capital; has good public buildings, a grammar school, training college, county hall, and market-house; and is much engaged in agriculture, iron and copper works.

* From *Martyr Tudfyl*. St. Tudfyl, the daughter of a Welsh chief, was put to death here, on account of embracing Christianity.

Builth, on the Wye, has trout and salmon fishing, and charming scenery. Here the Welsh prince, Llewellyn, was killed by the English, 1282. Its castle was the hunting seat of this prince.

Hay, on the Wye, has some woollen manufactures.

Radnor, separated from Brecknock by the river Wye, is wild and dreary; more than one-half of its surface being lofty, and covered with bogs and moors. *Radnor-forest*, on the E., is a wild moss and heathy tract.

Presteign, the assize town, stands on the Lug, and is small and unimportant.

New Radnor is also a small town of little importance.

Isle of Man* is divided into two unequal parts by a mountain ridge running from N. to S., rising in the highest peak, *Snafell*, 2,004 feet above sea-level, and covered on the sides with turf and heath. The minerals are lead, copper, and tin. The climate is variable, damp, and windy; but temperate. The summer is so cool as to cause late harvests; but turnips are excellent and extensively cultivated. Fishing is an important industry. The inhabitants are strongly attached to their native vales and mountains, have a parliament of their own called the House of *Keys*, the united branches of the legislature being the *Tynwald Court*. The inhabitants are indolent but hospitable, and speak a language called *Manx*, a branch of the Celtic.

Castletown, the capital, stands on the S. coast, has some trade with Liverpool.

Douglas, the largest town, is 75 miles from Liverpool, and has a good harbour, and good fisheries of cod and herring.

Peel, on the W. coast, is a small town.

The Channel Isles.—These islands, possessing a mild and salubrious climate, lie near the coast of France, and are comparatively free from taxation. They have a local legis-

* According to latest returns, the total area of the isle is 180,000 statute acres. Of this 28,222 are under corn crops (including beans and peas), 12,688 under green crops, 384 under bare fallow, 32,175 under grass, and 13,031 are permanent pasture. There were 5,810 horses, 17,403 head of cattle, 53,565 sheep, and 6,332 pigs; so that the number to every 100 acres under crops, fallow, and grass was, 6·7 horses, 20[·] cattle, 61·9 sheep, and 5·5 pigs. Population, 55,000.

lature, the acts of which, on receiving the sanction of the Queen in council, become law. The flowers and fruits are of the very best quality.

Jersey,* the largest of these islands, is 84 miles S. of Portland, and 4 miles from the French coast. It has a gradual slope from N. to S., sharp cliffs on the N. side, and small bays and coves all round, some of which, as St. Helen's bay, afford good anchorage. Nearly one-fourth of the island is under orchards. The fisheries, including oyster and lobster fisheries, are very extensive and valuable. The commerce is free, and consists of exporting dried fish to Newfoundland, Brazil, and the Mediterranean; and the imports are sugar, fruit, wine, etc. The people, who speak French, are acute and intelligent. The temperature is milder, warmer, and more agreeable than that of England, and the soil is fertile, but the system of agriculture is antiquated. They make much cider.

St. Heliers, the capital, lying at the foot of a lofty rock, open to the warm breeze from the south, is a pleasant and gay town, with much trade in fish, fowl, fruit, etc., and much frequented by tourists. It was taken by the French in 1781; but they were driven out of it in a few hours.

Gorey, though a village, is the seat of the oyster fishery.†

St. Aubin is a nice little town on the coast.

Guernsey, about 120 miles from Portsmouth, lies in St. Michael's bay, is nine miles long and six broad, with an excellent soil, abundance of fruit, and good crops of vegetables and grain, and extensive dairy farming.

St. Peter's (*San Pierre*), the only town on the island, stands on a small secure harbour on the E. coast.

The isles of *Alderney*, *Sark*, *Jethou*, and *Herm*, are dependencies of Guernsey.

Alderney, with lofty cliffs on the S. E., has a sandy soil

* This isle, with Guernsey, Sark, and Alderney, were a part of ancient Normandy, and came into the possession of England with the Conquest.

† Said to be the best oysters in the world.

around the coast, but many fertile valleys in the interior, in one of which, near the centre of the isle, stands *Alderney*, the capital. The reputation of its cows is well known.

The Scilly Isles, about 30 miles from Land's End, consist of 140 isles, islets, and rocks, the inhabitants of which are engaged in agriculture and fishing. *St. Mary's* is the capital.

TOWNS IN ENGLAND AND WALES, WITH AT LEAST 40,000
INHABITANTS.

Town.	County.	Population.	Industry.
London,	Middlesex,	3,251,804	Every variety of trade, commerce, and manufactures.
Mverpool	Lancashire,	493,346	Great emporium of American and Irish commerce.
Manchester } & Salford, }	Do.,	383,843 124,805	Great seat of the cotton manufacture.
Birmingham,	Warwick,	343,696	Iron and metal manufactures, including firearms.
Leeds,	Yorkshire,	259,201	Great seat of the woollen manufacture.
Sheffield,	Do.,	239,947	Immense manufactures of cutlery and plated ware.
Bristo	Gloucester,	182,524	Third seaport—great trade with West Indies, glass making, etc.
Greenwich,	Kent,	167,632	Observatory and Asylum.
Bradford,	Yorkshire,	145,827	Manufactures of broad cloth; wool and corn markets.
Stoke,	Stafford,	130,507	Chief seat of "potteries."
Newcastle-on-Tyne,	Northumberland,	128,160	Fifth port; glass and chemical works; exports of coal.
Hull,	Yorkshire,	121,598	Fourth port—great trade with the Baltic.
Wednesbury,	Stafford,	116,768	Iron and coal.
Portsmouth,	Hampshire,	113,000	Great naval station; biscuit making and general trade.
Sunderland,	Durham,	98,335	Shipbuilding; coal exportation.
Merthyr-Tydvil	Glamorgan,	96,891	Great iron and coal seat; immense furnaces.
Leicester,	Leicestershire,	95,000	Woollen stockings; agricultural market.
Brighton,	Sussex	90,000	Fashionable watering-place.

Town.	County.	Population.	Industry.
Nottingham,	Nottingham,	86,680	Cotton stockings, lace, boots, and shoes.
Preston,	Lancashire,	85,424	Cotton manufactures and watch-making.
Bolton,	Do.,	82,854	Cotton manufactures.
Oldham,	Do.,	82,619	Do., and hats.
Norwich,	Norfolk,	80,000	Crapes, and mixed stuffs; an agricultural mart.
Blackburn,	Lancashire,	76,337	Cotton manufactures.
Huddersfield,	York,	70,000	Woollen manufactures.
Wolverhampton,	Stafford,	68,279	Great iron and coal seat.
Plymouth,	Devonshire,	68,000	Shipbuilding and active commerce; a naval arsenal.
Birkenhead,	Cheshire,	66,000	Extensive shipbuilding.
Halifax,	York,	65,000	Woollen manufactures.
Southampton,	Hants,	54,000	Great packet station for Mediterranean and the E.
Croydon,	Surrey,	54,000	Residence of many Londoners.
Stockport,	Cheshire,	53,000	Cotton manufactures.
Bath,	Somerset,	52,542	Mineral waters; resort of invalids.
Swansea,	Glamorgan,	51,720	Great copper market; smelting works.
York,	Yorkshire,	50,761	Ecclesiastical capital of the North.
Devonport,	Devon,	50,000	Dockyard—shipbuilding.
Derby,	Derby,	49,723	Railway centre; silk.
Gateshead,	Durham,	48,592	Coal exporting, etc.
Walsall,	Stafford,	48,000	Iron and coal.
Rochdale,	Lancashire,	44,556	Cottons and flannels.
St. Helen's,	Lancashire,	45,240	Glass making.
Cheltenham,	Gloucester,	44,519	Fashionable watering-place.
Chatham,	Kent,	44,135	Government dockyard.
Exeter,	Devon,	44,000	Provincial capital.
Dudley,	Stafford,	43,781	Iron and coal.
York City,	York,	43,796	Provincial capital.
Cricklade,	Wilts,	43,552	Agricultural trade.
Ipswich,	Suffolk,	43,000	Agricultural trade.
Yarmouth,	Norfolk,	41,792	Herring fishery.
Bury,	Lancashire,	41,517	Cotton manufacture.
Northampton,	Northam,	41,000	Boot and shoemaking.
Hanley,	Stafford,	40,000	Coal and iron.
Coventry,	Warwick,	40,000	Jewellery and silk.

Mountains.—Besides the *Cheviot Hills*, which lie between England and Scotland, four mountain-chains are distinguished.

I. The **Pennine** range, which extends from the *Cheviot Hills*, and, after forming the boundary between Northumberland, Durham, and York on the E., and Cumberland, Westmoreland, and Lancashire on the W.,* terminates in the Peak in Derby.

II. The **Cumbrian** group, separated from the former by the delightful valley of the Eden, consists more of detached masses and isolated peaks, all interspersed with beautiful lakes, and forming the most fascinating scenery.†

III. The **Cambrian** or **Welsh** mountains extend through most of the counties of N. Wales, and run into the S.‡

IV. The **Devonian** range, running through Devon and Cornwall, is more of the nature of a table-land, or rather a succession of table-lands, than any of the others; Exmoor and Dartmoor are the most important of these.§

Isolated Mountains.—The *Wrekin* (Shrops.), 1,320 feet; *Snaefell* (Isle of Man), 2,004.

Hills.—Perhaps the *N. and S. Downs* are the most important hills. The N. Downs run S. of the Thames, from Salisbury Plain through Hants, Surrey, and Kent; the S. Downs through Hants and Sussex, terminating at Beachy Head. These ranges are connected by the *Alton* hills in 1° W. longitude. The next range bears three names: the *Chiltern Hills* (Bucks), *Gog Magog* (Cambridge), *East Anglian* in Suffolk and Norfolk. The *Malvern Hills* (Worcester), *Cotswold* (Gloucester), *Mendip* and *Quantock* (Som.). In Yorkshire, the *N. York Moors*, rising above 1,400 feet, and the *Wolds*, rising to 809 feet; also the *Wolds* in Lincoln; *Edgehill*, S. of Warwick.

Plains.—The most important Plains are :—

I. The **Plain of York**, on the E. of the Pennine range, and W. of the *Wolds*, includes very much of the basin of the Ouse.

II. The **Central Plain**, which includes much of Warwick, Northampton, Huntingdon, and Bedford, W. of the Nen, some portions of it attaining to an elevation of from 200 to 400 feet.

* In this range Cross Fell (*Cum.*) rises 2,901 feet, and overshadows three counties; Shunner Fell (confines of York), 2,329 feet; Great Whernside, 2,385; Ingleborough, 2,361; Pennilgiant, 2,276; Bowfell, 2,910 (last four are in Yorkshire); the Peak in Derby (1,859 feet), well known for its caverns and minerals.

† In this group, Scafell, the highest English mountain, rises 3,230; Skiddaw, with the most romantic scenery, 3,022; Helvellyn, 3,055; Saddleback, 2,787 feet.

‡ Snowdon, the highest peak in South Britain, is 3,571; Arran Fowddy (Merioneth), 2,955; Cader Idris, 2,914; Plinlimmon, 2,463; Black Mountains (Brecnock), 2,866.

§ *Brown Willy*, in Cornwall, is the highest peak. Dartmoor is nearly 2,000 feet above sea level.

III. The Fen District, which lies around the Wash, including part of Lincoln, S. of the Wolds, part of Northampton, Cambridge, and a small portion of Norfolk.

IV. The Eastern Plain, lying E. of the hills already mentioned, includes most of Norfolk, Suffolk, and Essex.

V. Salisbury Plain is an undulating table-land, lying between the Mendip Hills and the Downs.

VI. Cheshire Plain runs from Manchester to Shrewsbury, with the river Weaver in the centre, and from N. Stafford Hills to Flintshire.

Minerals.—The minerals occupy 4,100 square miles, or one-fourteenth of the whole surface. England has 11 coal-fields, and Wales 3; of these 5 are large; numbers 1, 3, 4, 5, and 6 in the following list :—

1. Northumberland and Durham, the most productive field in the world, and the most worked; lies between the rivers Coquet and Tees. Its ports are Newcastle, North and South Shields, Tynemouth, and Sunderland; all of which export immense quantities of coal.

2. Whitehaven, in the W. of Cumberland, produces the very best coal, which is shipped from its ports, Whitehaven, Workington, and Cockermouth.

3. Leeds and Nottingham, lies in the S. W. of Yorkshire, and N. of Derby and Nottinghamshire.

4. South Lancashire, extending from the Pennine Range to the estuary of the Mersey, its centre being Wigan, is a productive field.

5. South Stafford, or Dudley, contains the thickest bed in England, and the district is designated as the "black country."

6. South Wales, the most extensive coal-field of all, runs from St. Bride's bay through South Wales for 100 miles, extends beyond Merthyr-Tydvil on the N., and as far as Newport on the S., and terminates at the most eastern part of the Usk.

7. North Stafford, in which are situated the Potteries, is a small field.

8. North Wales, in Flintshire, extending from the Dee to the Oswestry, is pretty extensively worked.

9. Anglesea, perhaps the least productive, and with an inferior quality of coal, lies in the island of same name.

10. Dean Forest, in Gloucester, on the W. bank of Severn, is also a small field.

11. Bristol, which extends on both sides of the river Avon, is so named from its proximity to Bristol.

12. Warwickshire, near Birmingham, is a small field.

13. Leicestershire, is in the county of same name.

14. Shropshire, is also a small field in county of same name.

Iron is always found in the vicinity of coal-fields. There are 3 great iron seats—Merthyr-Tydvil, Wolverhampton, and Rotherham—each in a great coal-field. The following are the smaller iron seats :—(1) Derbyshire, (2) Cumberland, near Whitehaven, (3) Flint, (4) North Stafford, (5) Dean Forest, (6) Coalbrookdale, in Shropshire, (7) Cornwall, (8) Warwick, (9) Northampton, from Kettering to Wellingborough, (10) North Somerset, (11) Lancashire.

Copper. There are two great copper seats, Cornwall and Devon ; four smaller ones, Anglesea, Denbigh, Cumberland, and Cheshire.

Tin is largely found in Devon and Cornwall, the mines having been worked for ages.

Lead. This metal is found in nine counties, Cumberland, Derby, Durham, North Somerset, Devon, Cornwall, Denbigh, and Cardigan.

Silver is only found (in N. Wales) in small quantities with lead.

Salt abounds in Cheshire, near Nantwich, and in Worcester, near Droitwich.

Zinc is found in Derby, Flint, and the Isle of Man.

Manganese is found in Devon and Cornwall, and in Warwick near Coventry.

Slate is found near Bangor and Llanberis, N. Wales.

Marble exists in Dorset.

Granite is found in Dorset, Devon, and Cornwall.

Alum is found near Whitby in York ; *Kaolin, China or potters' clay*, in Cornwall.

Forests.—The following are the principal forests :—

The *New Forest*,* *Alice Holt*, *Woolmer*, and *Bere*, in Hants ; *Dean Forest* in Gloucester ; *Windsor* in Berks ; *Epping* and *Hainault* in Essex ; *Whittlebury*, and *Salcy*, and *Rockingham*, in Northampton ; *Wychwood* in Oxford ; *Delamere* in Cheshire ; *Sherwood* in Nottingham ; *Rothbury* in Northumberland ; *Inglewood* in Cumberland ; *Martindale* in Westmoreland ; *Lune*, *Stainmoor*, and *Bowland*, in Yorkshire ; *Wyredale* in Lancashire ; *Needwood* and *Cannock Chans* in Stafford ; *Exmoor* and *Dartmoor* in Devon ; *Tilgate* and *Ashdown*, in Sussex.

Canals.—The principal Canals of England, which prior to the introduction of railways contributed so materially to the development of the inland traffic by facilitating intercourse between the trading towns, are as follows :—

* It occupies 67,000 acres, of which 6,000 are under timber. *Dean Forest* occupies 23,000 acres, of which 11,000 are under timber. *Whittlebury* occupies 5,400 acres, of which 3,700 are under timber. *Windsor* about 7,000 acres. . 900 A DIES HIGH

1. The Sankey Canal, extending from the coal-pits at St. Helen's to the Mersey and Liverpool.

2. Duke of Bridgewater's Canal, extending from about 7 miles from Manchester, through a hill, by a subterraneous passage, to the duke's coal works at Worsley.

3. The Grand Trunk or Staffordshire Canal, 90 miles long, connects the Mersey with the Trent, and consequently the Irish Sea with the German Ocean. Near Stafford there are three branches, one joining the Severn near Bewdley, another extending to Birmingham, and the third to Worcester.

4. The Braunston or Grand Junction Canal extends from the Thames, at Brentford, to the Coventry Canal, at Braunston, in Northamptonshire.

Besides the above, many others have been cut in various parts of the kingdom ; as the Lancaster Canal, one from Liverpool to Leeds, one from Halifax to Manchester, one from Basingstoke to the Thames, and one from Andover to the river Itchen near Southampton.

Rivers.—Falling into the North Sea:—The *Alne*, *Coquet*, *Wansbeck*, *Tyne*, *Wear*, *Tees*, *Ouse*, *Humber*, *Witham*, *Welland*, *Nen*, *Great Ouse*, *Yare*, *Waveney*, *Orwell*, *Stour*, *Colne*, *Chelmer*, *Thames*, and *Stour*.

The *Till*, an English tributary of the *Tweed*, is about 28 miles long, and passes *Flodden Field*.

The *Alne*, *Coquet*, and *Wansbeck*, are small rivers draining the N. E. of Northumberland, and falling into the North Sea.

The *Tyne* is formed by the N. *Tyne*, which has its source on the Scottish border, and the S. *Tyne*, which rises in *Cross Fell* mountain, both uniting near *Hexham*, whence the river flows E. through elegant scenery, becomes navigable 8 miles above *Newcastle*, at *Blaydon*, and after passing *Newcastle*, N. and S. *Shields*, and *Gateshead*, enters the sea at *Tynemouth*, after a course of 80 miles. On the *Tyne* every year 3,000 tons of steel are produced; copper is smelted worth £100,000; silver is extracted from immense quantities of lead brought from *Alston-moor*, and *Weardale*.

The *Wear*, a river also of great commercial value, rises in the *Penine* range, and running through the centre of *Durham* county, passes *Bishop Auckland*, *Durham*, and *Sunderland*.

The *Tees*, navigable to *Stockton*, forms the boundary between *Durham* and *York* ; it rises in *Cross Fell*, and is 90 miles long.

The Humber, strictly speaking, an estuary, extending about 50 miles inland, but has a basin in extent 9,500 square miles.

The Ouse, formed at Borough bridge, of the *Ure* and *Swale*, passes York, Selby, and Goole, about 7 miles below which it is joined by the *Trent*, and both form the estuary of the Humber. Its tributaries on the W. are *Wharfe* and *Aire*; on the E. the *York*. The basin of this river includes very nearly the whole of Yorkshire. The *Caldor* and *Don* are tributaries of the *Aire*.

The *Trent*, just mentioned, rises on the N. of Stafford, its source being 600 feet above sea level, and after passing through Derby, Notts, and Lincoln, joins the Ouse, after a course of 170 miles, being navigable for barges for 120 miles. On the W. it is joined by the *Derwent* and *Tam*. On the E. by the *Soar*. The towns on its banks are, Stoke, Burton, Nottingham, Newark, and Gainsborough.

The *Witham*, rising in Rutland, passes Boston and Lincoln, enters, after a circuitous course, the Wash, which is also entered by the three following rivers :—

The *Welland*, rising in Northampton, passes Stamford and Spalding.

The *Nen*, also rising in Northampton, separates in part Huntingdon from this county, and Cambridge from Lincoln; it passes Peterborough.

The *Great Ouse*, rising in S. of Northampton, near Brackley, flows through Bucks, Bedford, Huntingdon, Cambridge, and Norfolk, passing Buckingham, Bedford, St. Neots, Huntingdon, Ely, and enters the Wash below King's Lynn. Its tributaries are the *Cam* and *Lark*.

The *Yare* runs S. E. through Norfolk, and enters the sea at Yarmouth, the city of Norwich being on a tributary, the *Wensum*.

The *Waveney* forms the boundary line between Norfolk and Suffolk, and joins the *Yare* near its mouth.

The *Orwell*, rising in the N. W. of Suffolk, runs S. W., passes Ipswich, and enters the North Sea near Harwich.

The *Stour* forms the boundary between Suffolk and Essex, and enters the sea at Harwich.

The *Colne*, rising in N. of Essex, flows E., and enters the sea a little below Colchester.

The *Chelmer*, running nearly parallel to the last-named river, passes Chelmsford and Maldon.

The *Thames*, the most important river in the United Kingdom, rises on the Cotswold hills, only 7 miles W. of the Severn at Gloucester, the stream being called *Churn*, as far as Cricklade; after passing into Oxfordshire, and 35 miles further on curving to the S., it passes Oxford city, and flowing still S. past Wallingford. After receiving the *Kennet*, it proceeds in an easterly direction, passing Windsor and Eton, Richmond, London, Greenwich, Woolwich, Gravesend, and Sheerness, and terminates between Shoeburyness and Sheerness. On the

N. it receives the *Cherwell*, *Thame*, *Colne*, and *Lea*. On the S. the *Kennet*, *Medway*, and *Darent*.

The *Stour*, rises in the N. Downs, and after a winding course passes Canterbury and Sandwich, enters the North sea.

The following flow into the English Channel:—*Rother*, *S. Ouse*, *Arun*, *Itchen*, *Test*, *S. Avon*, *Stour*, *Frome*, *Ere*, *Tamar*.

The *Rother*, forming the boundary for some distance between Kent and Sussex, unites with the *Brede*, and enters Rye bay.

The *Ouse*, running through the centre of Sussex, past Lewis, passes through a cavity in the Downs, and falls into the sea, near Newhaven

The *Arun* rises in St. Leonard's forest near Horsham, and falls into the sea three miles below Arundel. It is noted for its mullets.

The *Itchen* and *Test* both flow into Southampton water; the former rising in the centre, and the latter in the N. of Hampshire.

The *Avon*, rising in the neighbourhood of Devizes, flows S., passes Salisbury, enters Hampshire, and enters the sea at Christ Church, after a course of 66 miles.

The *Stour*, rising in Wilts, passes Blandford, and enters the sea after joining the *Avon*.

The *Frome*, rising in Dorset, and flowing E., passing Wareham and Dorchester, enters Poole harbour.

The *Ere*, a tidal river to Topsham, rises in Exmoor Forest in Somerset, and passes Dulverton, a little beyond which it is joined by the confluent *Barle*; it then enters Devon, and passes Tiverton and Exeter, entering the sea at Exmouth, after 54 miles of a course.

The *Tamar*, which enters Plymouth Harbour, forms the boundary between Devon and Cornwall. Launceston, Devonport, and Plymouth are on its banks.

The following are on the West:—*Eden*, *Derwent*, *Lune*, *Wyre*, *Ribble*, *Mersey*, *Dee*; (and in Wales) *Clwyd*, *Conway*, *Dovey*, *Teify*, *Towy*, *Tawe*, *Taff*, *Usk*, *Wye*, *Severn*, *Avon*, *Tone*, *Taw*, *Torridge*, and the *Camel*.

The *Eden* rises in the Pennine chain in the E. of Westmoreland, runs through the vale of same name, passes Appleby and Carlisle, and flows into the Solway Frith, after a course of 65 miles.

The *Derwent*, rising in Borrowdale, runs through the lake of same name, and that of Bassenthwait; receives the Cocker at Cockermouth; and enters the sea at Workington.

The **Lune**, **Wyre**, and **Ribble**, are small rivers running from the Pennine range across N. Lancashire, having for their respective ports, Lancaster, Fleetwood, and Preston.

The **Mersey**, flowing through the greatest manufacturing district in the country, forms a noble estuary of the greatest importance to the commercial prosperity of Liverpool. It is formed a little E. of Stockport by the *Thame* and *Goyt*, becomes navigable after receiving the *Irwell* from the N., forms its estuary after receiving the *Weaver* from the S., and enters the Irish Sea, after a course of 70 miles.

The **Dee**, with a course of 80 miles, and an estuary 9 miles long, rises in Merioneth, passes through Bala lake, the counties of Denbigh and Cheshire, entering the estuary below Chester.

The **Clwyd**, with a course of 30 miles, and the **Conway**, with a course of 30 miles, drain N. Wales, the former flowing through a beautiful valley in Denbighshire.

The **Dovey** and **Telfy** bound Cardigan on the N. and S. respectively.

The **Towy**, **Tawe**, and **Taff**, drain S. Wales. All the Welsh rivers are rapid in their upper course, and receive many mountain streams.

The **Usk** is a fine trout stream, rising on the borders of Cardigan, winds through the centre of Brecknock and Monmouth, amidst delightful scenery, passes Breckon, and Abergavenny, and enters the Bristol Channel at Newport.

The **Wye**, rising in Plinlimmon, winds along the borders of several counties, amidst delightful scenery, as far as the borders of Hertford. It passes Builth, Hay, Hereford, Ross, Monmouth, and Chepstow, where it enters the Bristol Channel, after a course of 130 miles.

The **Severn** is the only English river that has 4 capitals of counties on its banks. Rising on the E. side of Plinlimmon, it runs N. to Shrewsbury, bends to the S. E.; and after a course of 220 miles, enters the Bristol Channel. An immense quantity of sediment is carried down by this river, and its tributaries, which, on the right bank, are the *Cound* and *Teme*; on the left, the *Vrynway*, *Terne*, *Stour*, *Salwarp*, and *Avon*; while it passes successively, Llanidloes, Newtown, Welshpool, Shrewsbury, Bridgenorth, Bewdley, Stourport, Worcester, Upton, Tewkesbury, Gloucester, and Newnham.

Lakes.—The lakes of England are situated in the N.W. in the counties of Cumberland and Westmoreland, hence called “The Lake District.” The chief are: *Windermere*, *Derwent*, and *Ulleswater*, *Esthwaite*, *Grasmere*, *Rydelwater*, *Thirlmere*, *Coniston*, *Haweswater*, *Bassenthwaite*, *Buttermere*, *Loweswater*, *Ennerdale*, and *Wastwater*; in Wales, *Bala Lake*, and *Langorse Pool*.

Windermere.—Mostly in Lancashire, studded with beautiful islands near its centre, is 10 miles long, and about 1 broad. It is stocked with a variety of fish, of which the most esteemed is char. Around are sloping hills and woods and cultivated grounds, with hills and mounts in the distance. Its depth is about 240 feet.

Derwent Lake, about 3 miles long and $1\frac{1}{2}$ broad, is in the midst of the most charming scenery, with Skiddaw a little N. of it. Many islands are on its surface, from which delightful views can be had. It lies 228 feet above sea level, and has a depth of 80 feet.

Ulleswater, second in size, is 200 feet deep and 9 miles long, abounds with trout and eels, has its borders ornamented with handsome villas, and mountains in the distance. It has magnificent scenery.

Esthwaitewater is a small placid lake, about 2 miles long, has abundance of fish.

Grassmere is a small lake, with a large island used for grazing purposes, and is completely surrounded by mountains.

Rydelwater, still smaller, is about half a mile distant.

Thirlmere lies at the foot of Helvellyn, and is the most elevated of all the lakes, being 500 feet above sea level. Its depth is only about 80 feet. It is 3 miles long, and only half a mile broad.

Conistowater is 6 miles long (Lancashire), has two small islands, and has the mountains on its western side; depth 160 feet.

Haweswater is nearly 3 miles long and half a mile broad.

Bassenthwaite has no islands, and is further from the mountains than most of the others, and is a large lake.

Buttermere is encompassed by rocky mountains.

Crummock is 3 miles long, and $\frac{3}{4}$ of a mile broad, has nice scenery and good fish, and 130 feet deep.

Loweswater is a very small beautiful lake, and of similar nature, surrounded by neat farmhouses.

Ennerdall, about $2\frac{1}{2}$ miles long, has trout in abundance.

Wastwater, about 3 miles long, is very deep (at least 300 feet), has never been known to freeze, and is surrounded by lofty mountains. The river *Irt* connects it with the Irish Sea.

Bala, the largest lake in Wales, is about 4 miles long and 1 mile broad.

Langorse Pool, in Brecknock, is about 3 miles long, and 1 broad.

Mineral Springs.—There are 38 watering-places around the coast, and nine inland springs, viz.: Harrowgate, Scarborough, Cheltenham, Leamington, Bath, Buxton, Matlock, Tunbridge Wells, and Clifton.

Coast Line.—On the extreme N. and E. of Northumberland the coast is rather low and sandy, but quickly becomes bleak,

rising into rocky cliffs, culminating at *Flamborough Head*, to the height of 600 feet. About Whitby, the cliffs attain an elevation of 580 feet, and with the exception of the harbours formed by the mouths of the rivers and the small bays of *Filey* and *Bridlington*, no important opening occurs until we arrive at the *Humber*, receiving the whole surplus waters of the Yorkshire plain, together with those of the *Trent* basin. It is a fine navigable river or estuary, and consequently on its shores we meet the important ports of Hull and Grimsby ; with Goole, about 10 miles westward.

Proceeding southward along the the low shores of Lincolnshire, we arrive at the Wash, in shape almost rectangular, with an area of 300 square miles; shallower than the Humber, and less protected from the billows of the German Ocean, its trade is of less importance. The Witham, Welland, Nen, and Great Ouse, empty themselves into it ; having for their respective ports, Boston, Spalding, Wisbeach, and King's Lynn. The shores of Norfolk are extremely low. Yarmouth roads is the only important harbour. Harwich is the only harbour on the low shores of Suffolk and Essex, along which are islands and salt marshes, this coast being broken up into creeks, islets, and peninsulas, all of which are nearly level with the spring tide.

The next estuary is the Thames mouth. The Thames is navigable for a greater distance than most other rivers, and has a greater amount of shipping than any other river in the world. The navigation of the mouth of the Thames is naturally dangerous, numerous sand banks obstructing the entrance, chiefly in the vicinity of the Nore ; but mariners are now so well guided by pilots and buoys, that no accidents occur proportional to the natural impediments.

The coast of Kent has on the E. Goodwin Sands, the tops of which are dry at low water, at a few miles from the shore. On the S. E. and S., the chalk cliffs rise in height to several hundred feet. On the south coast, the lowest part is Romney Marsh, consisting of 44,000 acres reclaimed from the sea, and preserved from inundation by an artificial embankment. The highest point is Beachy Head already referred to. Southampton Water, ten miles long with its outlets, Spithead and the Solent, is a splendid navigable estuary, the great rendezvous of the British fleet. The Needles on the W. of the Isle of Wight are, as the name indicates, needle-shaped rocks. Passing Poole Bay (on one side of which is the so-called Purbeck Isle), and Weymouth Harbour, Portland Isle, connected to the mainland by *Chesil Bank*, is the most prominent physical feature on the low coast of Dorset. The coast of Devon possesses many harbours and sheltered creeks ; and Cornwall is broken up by many deep bays and inlets. Plymouth Sound has been sheltered by its gigantic break-

water, constructed at great expense. Falmouth harbour is a safe retreat for vessels in stormy weather. Mounts Bay is exposed to the Atlantic swell. The *Scilly Isles*, about thirty miles off the Land's End were once supposed to be connected with the mainland ; about six of them are inhabited by fishermen, farmers, and pilots, the remainder consisting of mere rocks and islets.

The entire of the western coast is marked by rugged features and elevated cliffs. The *Solway Frith* at low water is a shallow estuary, has a length of 33 miles, with a breadth of 20 miles at its entrance. The tide rises more rapidly here than in any other part of the British dominions, frequently causing injury to vessels. Morecambe Bay, a spacious inlet, though deep, and free from sandbanks, much exposed to the waves of the Irish Sea, is the next important opening. Walney Island, ten miles long and one broad, at its entrance, contains a considerable extent of moss with a low surface. Passing the estuary of the Ribble, and that of the Mersey, already described, we arrive at the estuary of the Dee, in the absence of the tide resembling a large mud pond, through which the river slowly glides. On the north of Wales no inlet occurs until we arrive at the Menai Strait, at the bottom of Beaumaris Bay, 13 miles long, and at its narrowest part only 250 yards broad, with romantic cliffs on either side. The tide rises nearly 30 feet, and it is traversed by many small vessels. Cardigan Bay, with a semi-circular curve of coast of 110 miles, has no good harbour ; a strong current sweeps from south to north. On the elevated shores of Pembroke, St. Bride's Bay is 8 miles in width, and penetrates 7 miles inland. Milford Haven, with wild and precipitous cliffs on its southern shore, is considered one of the best harbours in the world, penetrates 17 miles inland, and is protected from all winds. Its spring-tide rises 25 feet.

The Bristol Channel, extending from Carmarthen Bay to the mouth of the Avon, a distance of 80 miles, is the largest estuary in the British Isles, and has a coast-line of 220 miles. Its tides rise at Bristol 40 feet, at Chepstow nearly 70 feet. The coast of Somerset is low. Barnstaple Padstow, and St. Ives are the only other bays worth mentioning, until we reach the Cape called Land's End.

Railways.—The *Great Northern* (491 miles), running from London to Berwick-on-Tweed, passes Huntingdon, Peterborough, Grantham, Retford, Doncaster, York, Darlington, Newcastle-on-Tyne, and Morpeth. Its *Eastern Branches* run to Hertford, Cambridge, Spalding, Lynn Regis, Boston, Grimsby, Hull, Whitby, and Sunderland. Its *Western Branches* run to St. Albans, Dunstable, Melton.

Mowbray, Nottingham, Sheffield, Leeds, Manchester, Liverpool, and Bradford.

The *London and North-Western* (1,062 miles), runs to Carlisle and Holyhead, and passes Rugby, Tamworth, Stafford, Crewe (Chester, Bangor to Holyhead), Warrington, Wigan, Preston, Lancaster, Penrith to Carlisle. Its *Eastern Branches* run to Cambridge, Leicester, Leeds, Stockport, Manchester, and other places; its *Western Branches* to Oxford, Birmingham, Worcester, Shrewsbury, Welshpool, Newport, Hereford, and Swansea.

The *Great Western* (1,387 miles), running from London to Bristol, passes through Reading, Swindon, Chippenham, and Bath. The *South Eastern* (346 miles), runs to Croydon, Reigate, Tunbridge, Ashford, and Dover. The *Bristol and Exeter* (152 miles), runs through Bridgewater, and has branches to Tiverton, Weston-super-mare, and other places. The *London, Chatham, and Dover* (136 miles), runs through Rochester, and Canterbury, to Dover.

Education.—The four universities of Oxford, Cambridge, London, and Durham, together with numbers of great schools, including Eton, Rugby, Winchester, Cheltenham, Marlborough, and the many grammar schools, afford ample means of education for the higher and middle classes. Under the immediate superintendence of the several school boards, lately established, it is evident ample provision has been made for the education of the less wealthy part of the community. Nothing, however, has so much influenced the education of the British Isles as the introduction of the system of competitive examination for the public appointments under the Government, the examination being conducted by highly qualified and impartial examiners.

MANUFACTURING INDUSTRY.

Nothing so much characterizes England as the number, variety, and superiority of her manufactures, the excellence of which is known throughout the civilized world.

* The *North-eastern*, with its head-quarters at York, is one of the very best lines.

The manufactures of England exceed, both in extent and variety, those of any other country. Though the three staple manufactures are those of cottons, woollens, and iron goods, yet the production of leather, pottery, glass, silk, linen, jewellery, and plated ware, also gives employment to an immense number of people. The great seat of the *cotton* manufacture, which engages upwards of half a million of people, is Manchester, and the adjoining districts of South Lancashire and Cheshire, including among many others the towns of Oldham, Bolton, Chorley, Blackburn, Burnley, Bury, Stockport, and Hyde. There are likewise extensive manufactures of cottons at Glossop (Derby) and Nottingham, the latter being chiefly noted for hosiery. The *woollen* manufacture is carried on in three extensive districts: the west riding of Yorkshire; the west of England, including parts of Wilts, Gloucester, and Somerset; and the north of Wales, including the counties of Montgomery and Denbigh. In the first district, which is engaged in the production of miscellaneous *woollen goods*, the chief centres are Leeds, Halifax, Bradford, Huddersfield, Dewsbury, and Wakefield; in the second district, almost exclusively engaged in the production of *fine cloths*, are the towns of Bradford, Trowbridge, Frome, and Stroud, with some smaller towns in their vicinity; and in the third, where *flannels* are chiefly produced, the most important seats are Welshpool, Wrexham, Llanidloes, and Newton. *Carpets* are made in Kidderminster, Louth, Leeds, Manchester, and Wilton. The *iron* manufacture divides itself into two branches, iron smelting, or the reduction of the metal from its ore, and the manufacture of iron goods, such as hardware, machinery, etc. The great seats of the *iron smelting* are Merthyr Tydvil, Dudley, and the neighbouring district of South Stafford, and Rotherham, in Yorkshire. Cannon foundries are at Birmingham, Doncaster, and Manchester. *Hardware* is principally produced at Wolverhampton, Bilston, Walsall (which is the great place for nail making), Wednesbury, and Birmingham; *cutlery* is chiefly made in Sheffield and London; *machinery*, including locomotive and other steam-engines, at London, Manchester, Newcastle, and Birmingham; and *agricultural implements and machinery* at Ipswich, Saxmundham (Suffolk), and Henley. The *leather* manufacture is of great extent, the chief seats being Northampton and Stafford, where boots and shoes are chiefly made. An enormous amount of *pottery* is produced in North Staffordshire, chiefly at Stoke, Hanley, Burslem, Lane End, Tunstall, and Etruria, while the finest porcelain is produced at Worcester and Derby. *Glass* is made at Birmingham, Newcastle, Bristol, London, and St. Helen's; the latter being the first place where plate glass was manufactured. The chief seats of the *silk* manufacture are Derby, Macclesfield, Congleton, Spitalfields (London), Leek, and Coventry—the first

famous for its hosiery,* the last for its ribbons. *Linen* is produced only to a small extent, chiefly at Barnsley and Leeds. *Jewellery* is made extensively at London, Birmingham, and Coventry; *watches* and *clocks* at London, Coventry, and Prescot (Lancashire), and *plated-goods* at Sheffield. Besides the above branches of English manufactures, there are many others of inferior importance; but the industry of *ship-building* carried on at the ports of Sunderland, Birkenhead, London, Portsmouth, Grimsby, and Plymouth gives employment to a very great number of people.

Paper is made in the outlets of London, at Great Marlow, and other places. *Hats* are made in most of the large towns—Oldham, in particular. *Pins and needles* at Redditch and Alcester, and *pins* at Gloucester. *Toys* are principally made at Birmingham. *Boot tree and lasts* at Reading. *Brewing* is carried on in all the large towns, London, Birmingham, etc., and at Burton-on-Trent, Salisbury, etc. *Straw plait* is made at Dunstable and Luton. *Buttons* are made at Salisbury. *Oil cloth* at Leeds.

AGRICULTURAL INDUSTRY.

With regard to the agricultural industry of England, the country may be divided into the *grazing*, or western division, which includes Northumberland, Cumberland, Durham, Westmoreland, York (N. and W. Ridings), Lancaster, Cheshire, Derby, Stafford, Leicester, Salop, Worcester, Hereford, Monmouth, Gloucester, Wilts, Dorset, Somerset, Devon, and Cornwall; the eastern, or *corn growing* division, includes York (E. Riding), Lincoln, Notts, Rutland, Hunts, Warwick, Northampton, Cambridge, Norfolk, Suffolk, Bedford, Bucks, Oxford, Berks, Hertford, Essex, Middlesex, Sussex, Surrey, and Kent.

The application of steam power in the cultivation of the soil is now a universal practice on all large farms; and agriculture is in many counties conducted by men of skill and enterprise, on a soil exhibiting great varieties from irreclaimable barrenness to exuberant fertility. While tillage of the best description prevails in Northumberland, grazing, with the rearing of young stock, is the favourite pursuit in Cumberland, in which, as well as in the neighbouring county, Westmoreland, great abundance of green crops, which, owing to the

* Four kinds of stockings are made; silk at Derby, cotton at Nottingham, woollen at Leicester, and worsted at Bradford.

quantity of rain that falls here, are the best in the United Kingdom. *Durham* has long been famous for its excellent breed of cattle, which, by suitable feeding, become large and profitable to the husbandman. *Yorkshire*, from constant care for a great number of years, now produces rich crops of wheat where dreary swamps were found some forty years ago; and in the deep loams around *Pontefract* the cultivation of liquorice is carried out to great perfection. The excellent cheese of the dairy counties of *Cheshire*, *Devon*, *Gloucester*, *Derby*, and *Huntingdon* are justly prized. The celebrated "Cheddar" cheese comes from *Somerset*. The cider and perry of *Hereford*, *Worcester*, and *Devon* form an important industry. The hop cultivation, greatest in *Kent*, is also carried on in *Surrey*, *Hants*, and *Hereford*, with great success.

Huntingdon and the E. and S. of *Derby* are also well cultivated, and in the latter camomile is successfully produced. The splendid sheep of *Leicester* are much esteemed, and excellent cheese is also produced in this county. *Rutland*, with a rather light soil, gives peas and beans. *Northampton*, with a good clay soil, is engaged in grazing and raising the best of grain crops and woad for the dyers. *Worcester* is particularly fertile along the *Severn's* banks; and *Warwick* produces much hay and grass from its extensive meadow lands. *Bucks* gives numbers of the fattest oxen to the *London* market, and *Oxford* and *Bedford* produce the usual grain crops, and to a certain extent pursue dairy farming. In the flat counties of *Lincoln*, *Huntingdon*, and *Cambridge*, tillage forms the principal industry, and along the banks of the *Nen* and *Ouse* luxuriant meadow land is found. In the north of *Cambridge* is the *Isle of Ely*, a marsh now rendered productive by the industry of man. *Norfolk*, in addition to the usual crops, gives saffron, mustard, flax, and hemp. *Suffolk*, with the driest climate in the kingdom, level in surface, has some heaths and marshes; but has excellent dairies. *Hertford*, richly manured from the metropolis, is very highly farmed, and has the best market, *London*, at hand. *Essex*, with extensive salt marshes along its much indented coast, produces the very best wheat; carraway, hops, and coriander, are also plants raised here. Fruit and kitchen gardens to supply *London* are very abundant, and very profitable. *Kent* is also a great agricultural county, well-known for the superior quality of its hops; it has many cherry orchards. *Surrey* grazes many sheep on its hills, and gives a fair tillage to its rather light soil. *Sussex* produces every variety of soil; grazes a good breed of cattle and sheep. *Hampshire*, one-half of which is pasture, one-fourth arable, and one-fourth forest and heath, is engaged in profitable pursuits. *Wilts*, the S. of which forms a great sheep farm, has rich meadow land along the banks of the *Avon*, and rich pasturage in the N. of the county.

Dorset carries on artificial irrigation to a great extent, and feeds an immense number of sheep, well known by all extensive farmers of the United Kingdom. Somerset possesses every variety of surface, and every variety of agricultural industry with the fattening of cattle of the best description, and, as already said, in making the very best cheese. Devon, occupied by the barren Dartmoor on the W., has some rich lands, particularly on the E., and along its rivers' banks, produces excellent crops, cider, and cheese. Cornwall produces much potatoes, and grazes many flocks of sheep and goats. Monmouth, a very hilly county, more Welsh than English, has numerous mules, the breed having been introduced from Spain.

COMMERCIAL INDUSTRY.

We import to the value of £40,000,000 sterling of corn and grain; *flour* from Canada and the United States, maize from the latter, *rice* from India, the United States, and the Southern States of America. *Hops* are largely exported to Australia and the United States. We import raw cotton to the value of about £50,000,000 sterling, and export the manufactured article to the value of at least eighty millions.

Wool is obtained from Australia, Tasmania, Cape Colony, Spain, (Merino), River Plate, Peru (Alpaca), Germany, and New Zealand. Hemp is largely imported from Italy, Russia, Manilla, and the East Indies. *Jute* from India, and £4,000,000 worth, principally from countries bordering on the S. of the Baltic. Raw silk is brought from China, Japan, Persia, Italy, and France. Sugar from the W. Indies (one-third of all used), Mauritius (one-twelfth of all), and Cuba; and beet-root sugar from France, the duty on all kinds being about 5½ millions sterling. Tea is brought from China and Japan, Annam, etc. Coffee from Ceylon, Mocha, E. Indies, and Guiana. Dried fruits from Smyrna and Valentia and other Mediterranean ports. *Wines*.—Sherry from Spain, port from Portugal, claret from Bordeaux, hock from the Rhine, champagne and moselle from Eastern France. We also import brandies and gin from France and Holland respectively, cheese and flowers also from Holland; timber from N. Europe, Canada, the W. Indies and Central America; besides many other articles too numerous to mention. Our exports consist chiefly of our home-made products—manufactured goods in general. Our exports and imports, however, form but a very small portion of our commercial industry, which exhibits every variety of inland trade.

Imports.—The real value of the merchandise imported into the United Kingdom in the year 1870 was £303,296,082, being a considerable increase over 1869; the imports from British possessions, were £64,797,650; the United States, £49,804,929; France, £37,608,043; German Empire, £15,401,946; India, £25,056,902; China, £9,624,557; Egypt, £14,116,802; from Russia, £20,560,043; Holland, £14,315,910; Belgium, £11,246,523; Australia and New Zealand, £14,075,291; British North America £8,512,789; Sweden, £6,497,967; Norway, £2,190,807; Peru, £4,881,075; Brazil, £6,131,031; Spain and the Canaries, £6,498,175; Turkey, £7,682,433. The general result an increase over 1869 to the extent of £7,835,868.

Exports.—The value of our exports for 1870, was £199,641,000, of which £51,848,951 went to the British possessions; £11,643,139 to France: £20,371,560 to the German Empire; £935,755 to Holland and Belgium; and so on.

MAP OF ENGLAND.

Specimen of Questions to be asked by the Teacher.

1. Name the maritime counties of England and Wales, commencing at Northumberland, and going round by the eastern coast, giving the capital of each, and its position.

2. What English county is touched by 9 others? Name those others in order. (A county in Ireland is touched by 8.)

3. Name the 4 counties in a direct line from the centre of the Wash to the Bristol Channel, and the 4 from the same place to the mouth of the Dee.

4. Give the names of the 9 maritime counties of Wales, and the capital of each, with its position.

5. Enumerate the 14 English coal fields, distinguishing the 5 large ones.

6. What are the counties bordering on the Thames? Give the principal industry of each.

7. Describe the course of the Severn, the counties through which it passes, and name the most important towns on its banks.

8. Give the name and position of the most important English forests, and canals, etc., etc.

SCOTLAND.

Scotland, also called North Britain, is more irregular in shape, more broken up into islands, and more deeply indented by long narrow inlets, than any other country in Europe. Its area is 31,325 square miles; it is bounded on the N. and W. by the Atlantic, on the E. by the North Sea, on the S. by the River Tweed, Cheviot Hills, Solway Frith, and Irish Sea. The North Channel on the S. W. separates it from Ireland.

Its most northern point is Dunnet Head, latitude $58^{\circ} 41'$; its most southern the Mull of Galloway, latitude $54^{\circ} 38'$; its most eastern point is Buchanness, $1^{\circ} 45'$ W.; and its most western, Ardnamurchan point, $6^{\circ} 14'$ W. longitude.

Its length from Cape Wrath to the Mull of Galloway is 270 miles; but the breadth varies from 180 to less than 30 miles.

Though Scotland is usually divided into the *Highlands* and *Lowlands*, we consider a division into *Northern*, *Middle*, and *Southern*, while it is sufficiently marked by physical features, more in accordance with a division of the industrial pursuits of the people. In the northern division the climate is rather severe, the surface hilly and mountainous, and sheep farming prevails. In the middle the principal minerals exist, and consequently there is a mixture of mining, manufacturing, and agricultural industries. In the south, the best and most successful farming in the world is carried on, consisting of cattle-rearing, dairy-farming, and an improved system of tillage.

While Scotland to a certain extent resembles England in its trade and manufactures, it differs from it in being more mountainous, possessing more lakes, and less minerals; in being surrounded by a larger number of islands, having a colder climate, and in being more sparsely populated.

Capes and Headlands.—On the E. *Duncansby Head*, *Tarbet Ness*, *Kinnairds Head*, *Buchan*, and *Fife Ness*, and *St. Abb's Head*. On the S. *Burrow Head* and the *Mull of*

Galloway; on the W. the *Mull of Cantire*, *Point of Ayre* (on Arran Isle); *Ardnamurchan* and *Sleat Points* (the latter in Syke); *Butt of Lewis*, and *Barra Head*, on the N. and S. of the outward Hebrides respectively; on the N., *Cape Wrath* and *Dunnet Head*. In the Orkneys are *Marwick* and *Hoy Heads*, and *Turn Ness*.

Bays, Harbours, and Straits.—On the E. are *Sinclair Bay*, *Dornoch*, and *Moray Frith*, Friths of *Tay* and *Forth*. On the S. are the *Solway Frith*, *Wigtown*, and *Luce Bays*. On the W. are *Loch Ryan*, *Frith of Clyde*, *Lochs Fyne*, *Linnhe*, *Sounds of Jura*, *Mull*, *Kilbrennan*, *Sleat*, and *Islay*, the *Minch*, and *Little Minch*. On the N. is the *Pentland Frith*.

Islands.—Besides the three large groups of the Orkneys, Shetlands, and Hebrides, there are the isles of *May* and *Bass Rock* in the Frith of *Forth*; *Arran* and *Bute*, and a few smaller islands in the Frith of *Clyde*.

The following table gives the counties of Scotland, with the area, population, and capital of each.

SCOTLAND—THIRTY-THREE COUNTIES.

Three Northern Counties.

County.	Area in Acres.	Population.	Capital.
1 Orkney, }	400,000	31,272	Kirkwall, on Mainland.
2 Shetland, }	200,000	31,605	Lerwick, on Mainland.
3 Caithness,	455,708	89,989	Wick, on the Wick.
3 Sutherland,	1,207,188	23,686	Dornoch on the Dornoch Frith.

Three North-Western Counties.

4 Ross, }			Dingwall, on Frith of Cromarty
5 Cromarty, }	2,016,375		Cromarty, Do.
6 Inverness,	2,723,501	87,480	Inverness, on the Ness.

Five North-Eastern Counties.

7 Nairn,	131,500	10,213	Nairn, on the Nairn.
8 Elgin,	340,000	43,598	Elgin, on the Lossie.
9 Banff,	439,219	62,010	Banff, on the Deveron.
10 Aberdeen,	1,260,625	244,607	Aberdeen, on the Dee.
11 Kincardine,	252,250	34,651	Stonehaven, on the Car-ron.

Five East Midland Counties.

County.	Area in Acres.	Population.	Capital.
12 Forfar,	568,750	234,525	Forfar, on L. Forfar.
13 Perth,	1,814,063	127,741	Perth, on the Tay.
14 Fife,	328,427	160,310	Cupar, on the Eden.
15 Kinross,	49,812	7,208	Kinross, on L. Leven.
16 Clackmannan,	29,440	20,742	Clackmannan.

Five West Midland Counties.

17 Stirling,	295,875	98,179	Stirling, on the Forth.
18 Dumbarton,	204,800	58,839	Dumbarton, on Clyde.
19 Argyle,	2,083,126	75,635	Inverary, on L. Fyne.
20 Bute,	109,375	16,927	Rothsay, on E. of Bute.

Three South-Western Counties.

21 Renfrew,	158,268	216,919	Renfrew, on the Clyde.
22 Ayr,	735,262	200,745	Ayr, on the Ayr.
23 Lanark,	568,867	765,279	Lanark, on the Clyde.

Six South-Eastern Counties.

24 Linlithgow,	81,113	41,191	Linlithgow, on the Forth.
25 Edinburgh,	254,300	328,335	Edinburgh, on the Leith.
26 Haddington,	179,142	37,770	Haddington, on the Tyne.
27 Berwick,	302,951	36,774	Greenlaw, on the Black Adder.
28 Peebles,	227,869	12,314	Peebles, on the Tweed.
29 Selkirk	166,524	14,001	Selkirk, on the Ettrick.

Four Southern Counties.

30 Roxburgh	428,494	42,965	Jedburgh, on the Jed.
31 Dumfries	702,953	74,700	Dumfries, on the Nith.
32 Kirkcudbright	610,343	41,852	Kirkcudbright, on the Dee.
33 Wigtown	327,906	38,795	Wigtown, on Wigtown Bay.

The Orkneys, separated from the mainland by the Pentland Firth, a channel only 7 miles wide (through which a strong tide flows towards Dunnet Head), consist of 73 islands and islets, 29 of which are inhabited. Many of the others, called "holmes," are visited in the summer for pasture ground. The surface varies much, being in some places covered with heaths, with a considerable depth of peat mould, and only one-third of the whole being cultivated. The highest hill is called Wart Hill (1,550 feet), on the island of Hoy. The climate is rather cold and moist, though frost never lasts long. Oats, barley, and vegetables are raised; but fishing is an important industry. The inhabi-

tants are partly of Scotch, and partly of Norwegian descent.

Pomona or **Mainland**, dividing the whole group into N. and S. isles, is 25 miles long, and like the S. isles has some good harbours. It contains more than half the population. The remaining islands are *Sanda*, of great fertility; *Hoy*, 14 miles long, and 5 broad.

Kirkwall (3,434), the cap., stands on a bay on the N. of Pomona, about 40 miles from Wick. It has a cathedral, town-hall, museum, grammar-school, and a custom-house. It has an annual fair in August, continuing 14 days, and has much provision trade.

Stromness, 12 miles distant, stands on the same island, with an excellent harbour, has 3 distilleries, and is the packet station for the islands.

The **Shetland Isles**, lying about 150 miles from Buchan ness, consist of 90 islands, islets, and rocks; thirty being inhabited. The highest elevation on these islands is Roeness Hill, which has an elevation of 1,500 feet; and, indeed, the whole surface is wild and rugged, with an indented coast, the bays and creeks being called "voes." In winter, though frost and snow last but a short time, severe storms frequently arise; and it is computed 200 men are annually drowned in this group of islands. Agriculture is carried on in a very rude manner, and the fisheries constitute the staple industry. The cottages are built of mud, and peat is used for fuel, no timber existing on the islands. Oats, potatoes, and turnips, are raised in small quantities; wild fowl are abundant. Dried fish are sent to Spain and other countries, ponies to the mainland. In the extreme N., daylight at Midsummer never disappears, the sun's rays at setting one day, mingling with those of his rising the next. At midwinter, on the contrary, the sun is only five and one-third hours above the horizon, the nights being long and dreary. The climate is humid.

Mainland, the largest island, has valleys running N. and S., which are interspersed with small lakes. It contains two-thirds of the population, and is 55 miles long, with a breadth of from 3 to 10 miles.

Yell, the second in size, is about 20 miles long, and 6 broad.

Unst, the third, is 11 miles long, and 6 broad.

Lerwick, standing on the largest island, is an industrious town,

where the whale fishing boats are moored. This is the only town in the Shetland Islands.

The **Hebrides**, lying on the W., are naturally divided by the Minch, and Little Minch, into the *inner* and *outer*. They are in number about 200, of which 70 are inhabited. The *Inner* are *Skye*, *Mull*, *Islay*, *Jura*, *Coll*, *Rum*, etc.; and the *Outer* are *Barra*, *N. and S. Uist*, *Benbecula*, *Harris*, and *Lewis*. The large islands near the mainland partake of its rugged character, the mountains in *Skye* rising to an elevation of 2,500 feet; while the numerous rivers that drain them abound in salmon, trout, and eels. The climate of these islands, owing to the influence of the Gulf Stream, is mild; but the inhabitants are poor. Many cattle and sheep are reared. These islands belong to *Argyle*, *Inverness*, and *Ross*. Their fisheries are important. Some writers include *Arran* and *Bute* among the Hebrides.

Stornoway, a small port in *Lewis* (an island 60 miles long, and 30 broad), has some boat building.

Portree, in *Skye*, has trade with the mainland.

Tobermory, in *Mull*, has boat building.

Islay, a small island, has extensive distilleries.

Caithness, with a generally level surface, has extensive peat-mosses and moorland; a ridge of hills separates this county from *Sutherland*, one of which, *Marven*, is 2,334 high; agriculture, fishing, and sheep-farming are the chief industries. It is drained by the river *Thurso*.

Wick (8,132), the seat of the herring fishery, is a modern town, filled with fishermen from every portion of the United Kingdom, in the fishing season.

Thurso, on a fine bay, is the most northerly town in Great Britain.

Sutherland, with a flat sandy shore, is penetrated by deep inlets, particularly on the N. and W.; while in the interior there are fine pastoral valleys, bordered by mountains or hills, one of which, *Sugar Loaf*, is 2,400 feet high.

the centre is *Loch Shin*, 18 miles long and 1 broad.

Sheep-farming is the staple industry. This county is drained by the *Shin* and *Brora*.

Dornoch (625) is the only town in the county, but it hardly deserves the name. It is the smallest cap. of a county in the United Kingdom.

Ross and Cromarty, having deeply indented shores on both seas, but more particularly on the Atlantic, are always mentioned together, because the latter is made up of ten or twelve different portions parcelled out through the northern half of the former. The surface in general is hilly and mountainous, rising in *Ben Dearig* to 3,550 feet, *Benwyvis* 3,720, and in *Clock* to 4,000 feet; but on the E. some lowlands of great fertility exist; agriculture and fishing, with a little wool-combing and dyeing, constitute the industries. *Lewis* belongs to Ross. This county is drained by the two rivers *Carron*, and the *Conan* which flows into Cromarty frith. *Loch Maree* is 18 miles long.

Dingwall (2,125), the capital of Ross, stands at the head of Cromarty Frith; has some good houses and shops, but very little trade.

Cromarty (1,476) is on a low tongue of land jutting out into the Frith, and has a good herring fishery, roperies, breweries, etc.

Fortrose (911), a small town on Moray Firth, has salmon and sea fisheries

Tain (1,765), on a river of same name near Firth of Dornoch has some good public buildings, and some trade.

Inverness, the largest county of Scotland, contains about 30,000 acres, including the isles of Skye, Harris, N. and S. Uist, Barra, and Benbecula. The surface is extremely mountainous, and naturally divided into two parts by the Great Glen of Scotland, called Glenmore, through which runs the Caledonian canal. The small portion of the surface not under mountain, lake, or river, is well tilled; but on the hills sheep farming prevails; much mountain is preserved for grouse shooting and deer stalking. Ben Nevis, the highest mountain in the United Kingdom, rises 4,406 feet. This county is drained by the *Spey*, *Lochy*, and *Ness*, and many small streams flowing through the

glens, bordered by mountains on either side. The scenery of Inverness is most romantic and exceedingly diversified.

Inverness (14,463), the cap. of the Highlands, stands 255 miles N.W. from Edinburgh, on the Ness, near the Moray Frith; it is large, well-built, and well-paved. It has many good public buildings, iron foundries, breweries, and woollen and plaid manufactures. The shipping is active. The climate, considering its latitude, $57^{\circ} 28'$ is very mild, the mean annual temperature being 46° .

Portree, on the Isle of Skye, has been mentioned.

Nairn, intersected by the *Findhorn* and *Nairn*, is hilly in the S., but level along the coast; and though the climate is cold, it has successful tillage; marl and limestone are found.

Nairn (4,220), on the river of the same name, has some coasting trade.

Elgin, bordering on the Moray Frith, is divided into two parts by a detached part of Inverness; it is, with the exception of the highlands in the extreme S., very productive. Sand hills line the shore in some parts, and cliffs crowned with the remains of Danish fortifications in others. This county is drained by the *Findhorn* in the W., the *Spey* in the E., and the *Lossie* in the centre.

Elgin (7,339), the cap., on the *Lossie*, was burnt by Wolf of Badenoch in 1390; by a son of one of the Lords of the Isles, 1402; and by the earl of Huntly, 1452. It has the ruins of a cathedral, once proudly called, "The Lanthorn of the North."

Forres (3,959), is near the *Findhorn*, and has local trade.

Banff, extending from the Moray Frith to the region of the Grampians, is hilly and mountainous, with the exception of a fertile strip of rich loam soil. Here *Cairn-gorm* rises above 4,000 feet; some of the mountain valleys are well wooded.

Banff (7,439), the cap., stands on the *Deveron*, is well built, and has a small harbour.

Cullen (2,055) is a small seaport, with trade in linen and damask.

Portsoy (2,055) has granite and marble quarries in its neighbourhood, and is much engaged in fishing.

Aberdeen, with about 60 miles of coast-line, has a tolerably level surface, except towards the S. W., whence the *Dee* and other rivers flow in an easterly direction. Here *Benmacdhui* rises 4,296 feet, and several other moun-

tains almost as high. Granite, slate, and limestone are the chief minerals. Turnips for fattening cattle are largely grown. This county is well farmed, tillage being carried on with skill and spirit, and the fisheries on the coast and in the rivers constitute an important industry; sheep are numerous. Timber covers one-tenth of the surface, chiefly larch and Scotch fir. It is drained by the *Dee*, the *Don*, the *Ythan*, and *Deveron* which is mostly a boundary river.

Aberdeen, consisting of New Aberdeen, on the N. side of the *Dee*, and Old Aberdeen, formerly called *Aberdon*, on the south bank of the *Don*, is a splendid city, noted as much for its activity in shipping, its manufacturing industry, as for its university. It has extensive commercial relations with the E. and W. Indies, N. America, the Mediterranean, and the Baltic. Extensively worked granite quarries outside the city, cotton, linen, and paper mills, iron foundries inside, together with ship-building, are the chief industries. Its public buildings consist of the university, grammar-school, etc.

Peterhead (8,535) stands on a small peninsula, near the mouth of the *Ugie*; has a good harbour, and its streets well laid out. Besides being much engaged in fitting out for the whale fishery in the Arctic Ocean, it is the second seat of the Scotch herring fishery.

Inverury (2,856), on the *Don*, has an active trade with Aberdeen and the interior of the county. **Kintore** (659), on the *Don*, is an ancient town with trade by the Aberdeenshire canal. **Fraserburgh** (3,300), on the N. coast, has a good fishery.

Kincardine is occupied on the W., and partly in the centre, by the Grampians, which cover about one-third of the county; the remainder, with a level soil, being well cultivated. The climate is mild, and the highlands afford good sheep pasturage, and the coasts have a good herring fishery. The *Dee*, forming for some distance the N., and the *Esk*, the S. boundary, are the chief rivers.

Stonehaven (3,400), consisting of an old and new town, united by a bridge across the *Carron*, has a herring fishery, brewery, distillery, and a little linen and woollen trade.

Bervie (1,013) is much engaged in fishing, and has a little corn trade.

Forfar, centrally traversed by the Valley of Strathmore, which is 33 miles long, and 6 or 8 broad, is a maritime county N. of the Firth of Tay. The Sidlaw Hills rise in the E.,

and in the N. W. are elevations connected with the Grampians. Thus four districts are distinguished :—I. the Grampians, where some peaks rise 3,000 feet ; II., the Vale of Strathmore, running from S. W. to N. E. ; III., the Sidlaw Hills ; IV., the fertile and highly cultivated tract towards the sea. Sheep farming is carried on in the highlands, fishing on the coast ; and this county is the chief seat of the linen trade of Scotland. It is drained by the N. and S. Esk.

Forfar (11,031), the capital, chiefly engaged in the linen manufacture, has some good public buildings—the town and county hall and court-house. In the town-hall is preserved a curious relic of ignorance and barbarity—"the Witches' Bridle."

Dundee, with capacious docks, quays, and wharves, on the Firth of Tay, between delightful grassy hills, has been of late years rapidly improving. Narrow streets have been pulled down, and broad ones substituted. This town, in addition to its extensive shipping trade, has manufactures of coarse linen made from flax, and tow chiefly imported from the Baltic. Jute brought from India is manufactured into packing cloth, carpets, mats, sacks, and bags. Indeed, almost all the canvas for the navy is now made here. Marmalade and confectionery form an important industry, being exported to all parts of the world. Dundee has a town-hall, royal exchange, high school, custom-house, and several other splendid public buildings.

Montrose (14,548), at the mouth of the S. Esk, anciently surrounded by walls, is a clean town much engaged in flax spinning and weaving, and has a coasting trade, exporting salmon, stone, and agricultural produce. It is the birth place of Joseph Hume.

Brechin (7,933), on the S. Esk, has many good public buildings, an old castle, remains of a cathedral, etc.

Arbroath (19,974), on the coast, has manufactures of yarns, canvas, and sail-cloth, and considerable coasting trade.*

Perth, the most central, and one of the most important counties in Scotland, is divided into the highland and lowland districts. The climate is mild, and though sterile on the hills, consists of rich loam in the lowlands. This county is distinguished for its mountain, river, and lake scenery, 32,000 acres being covered with water. Some of the highest

* Twelve miles out seaward is Bell Rock (now a light-house), on which the monks of Arbroath placed a bell, which rung by the action of the waves, and warned mariners of their dangerous position.

peaks of the Grampians are found here. Lochs *Tay*, *Earn*, and *Rannock*, are the largest in the county, which is drained by the *Tay* and its tributaries. Deep glens, nicely wooded valleys, mountain peaks, elevated table-lands, expansive plains, combine to give most of the surface a beautiful, grand, and romantic appearance.

Perth, an ancient handsome town, surrounded with charming landscapes, was the capital of Scotland, until the murder of James I. here, in 1437, led to the transference of the Government to Edinburgh. It has many large handsome public buildings, including high, grammar, and endowed schools, and banks; it has manufactures of linen, salmon fishing, paper and corn mills, foundries, tan-yards, etc. Small vessels ply to Dundee, and some ship-building is carried on.

Culross (467) has damask-weaving, and a little trade in coal and iron.

Crieff (4,000) is a beautiful little town at the entrance of a pass in the Grampians. It has corn and oil mills, and some woollen, linen, and worsted factories.

Dumblane or **Dunblane**, **Dunkeld**, and **Kincardine**, are small towns, the first two having once had cathedrals.

Fife, a peninsula lying between the Friths of *Tay* and *Forth*, is one of the very best cultivated counties, producing crops of oats, wheat, barley, beans, flax, potatoes; coal, iron, and limestone are found in abundance. It is drained by the *Eden* and the *Leven*.

Cupar (1,505), the cap., stands on the *Eden*, is a small town with linen manufactures.

Dunfermline (14,958) formerly contained one of the richest abbeys in Scotland, remains of which may still be seen. Manufactures of fine linen is the chief industry. Charles I. was born here.

Dysart (8,920), on the Frith of *Forth*, with a splendid harbour, has a little coasting trade.

Burntisland (3,266) is a small town, with one of the best harbours in the Frith of *Forth*.

Kinross is a small inland county, hilly on the borders, but level in the interior, where is Lough *Leven*, which covers above 3,000 acres; on the east *Ben Lomond* hill is 1,727 feet high. This is the smallest county in Scotland, with one exception.

Kinross is a town on Loch Leven, with manufactures of cottons, tartan shawls, and damasks. Parts of the town are badly built, but the public buildings are elegant.

Clackmannan, whose surface consists of picturesque hills, which on the N. rise in the Ochill range to 2,359 feet above sea level, is also splendidly cultivated; has extensive sheep pastures; some coal and iron mines, and some good soil near the Forth.

Alloa, with ale trade, is the largest town in the county; though the small town of *Clackmannan* is the capital.

Stirling, extending from the Frith of Forth to L. Lomond, contains Ben Lomond on the W., the Campsie Hills in the centre, and plains highly cultivated on the E.

Stirling (14,276), on an eminence on the Forth, has an old castle of much historic interest, from the walls of which 12 battle-fields can be seen. It has manufactures of carpets, and shawls. It is a great railway centre. Near the town is *Bannockburn*, where Bruce defeated Edward II., in 1314.

Falkirk (19,547) is famous for its "trysts," or fairs, held 3 times every year, at which many thousand cattle are sold; and still more for its remnants of antiquity; it is in a rich agricultural district. Here, in 1298, Edward I. defeated Wallace, and here in 1746 Prince Charles, the young Pretender, defeated the English.

Dumbarton, lying W. and S. of Lough Lomond, and N. of the Clyde, has a diversified surface, with a climate well adapted to pasturage, and the growth of timber. Ironstone is raised in the E., and arable land is only found on the banks of the *Clyde*, and near Lough Lomond. On the banks of the river *Leven*, many bleach greens are kept.

Dumbarton (11,414), with an old castle on a rock in the Clyde, is the chief town in the county. **Kirkintilloch** has cotton works, and **Helensburgh** is a watering-place.

Argyle or **Argyll**, with about 340 miles of sea-coast, is of a most irregular shape, and a rugged and mountainous surface, much covered with moss and heath, with a wet and boisterous climate 52,000 acres being covered with lakes

and 40,000 with plantations. The minerals are lead, copper, iron and coal, but not found in great abundance. Herring fishing is extensive in Loch Fyne, and around the islands.

Inverary (902), the cap., is a small town with very little industry.

Campbeltown (6,628) carries on a large trade in whiskey, and employs hundreds of vessels in the herring trade.

Oban is a favourite watering-place on the coast, where tourists embark for the islands. It has seven or eight good hotels.

Arran and **Bute** consist of the two Islands thus named, and several smaller ones. *Bute*, with a very mild climate, has some good farming. *Arran*, with a high surface, is also well cultivated. The fisheries are important.

Rothsay, on E. of Bute, much resorted to on account of its mild climate, has good fisheries of haddock, herrings, salmon, soles, and whiting : large cotton factories, and docks for ship-building are here.

Renfrew, hilly on the W. and S., but comparatively flat on the E., is largely covered with meadows and gardens ; dairy-farming is carried on to a great extent. The district of the county of Renfrew lies in close proximity to the great city of Glasgow, and partakes throughout its whole extent of the stimulus imparted from that great industrial centre.

Renfrew (4,162), the cap., near the Clyde, is a small town of little importance, with some ship-building.

Paisley (48,257) has been long celebrated for its manufacture of shawls, which, along with the printing of shawls, cotton spinning, and more especially the manufacture of sewing thread, tartans, checks, and other cloths, form the staple trade ; a great industry prevails in French goods, muslins, crapes, etc. Its paper mills are widely known.

Paisley has more factories than any town of the same size in the United Kingdom.

Johnston, a manufacturing town, stands 3 miles from Paisley.

Pollockshaws, on the Cart, is an improving town with cotton manufactures, weaving, and bleaching. Good quarries are worked in the neighbourhood.

Port Glasgow (10,805) has good foreign trade ; it is well-built, and the chief seat of the American timber trade.

Greenock (57,138) is an extensive seaport, much engaged in the herring and Newfoundland fisheries. Here also cordage and sail-cloth are manufactured, and ships and steamers built and equipped.

There are several cotton, woollen, and paper mills, foundries, and tanneries. Greenock is the centre of a number of towns and villages on the Clyde and the adjoining Highland lochs, between which there is daily steam communication. It has great trade with America and the E. and W. Indies, and an active coasting trade. The port has a high character for the excellence of the ships and steamers built by its carpenters and engineers; the whole of the Halifax line and several of the West India, Australian, and Mediterranean steam-ships were built here. It is the largest seat of sugar refineries in the United Kingdom, 16 being in active operation. It is the birth-place of James Watt.

Ayrshire is famed for its dairy produce and high farming. It has a rather hilly surface, but a mild climate. Its dairies, particularly in the N., whence the Dunlop cheese is obtained, are much prized. Coal and iron are abundant; lead, freestone, and some copper are also found; and the manufactures of woollens, cottons, etc., are increasing. It is drained by many small streams all flowing westward to the sea, as the *Ayr*, *Doon*, etc.

Ayr (17,851), the cap., a clean well-built town on a river of same name, manufactures carpets, shawls, leather, woollen bonnets. It carries on trade in iron, coal, and grain, and has some fishing. Its harbour is small but secure.

Kilmarnock (22,952) is a large, flourishing, and handsome town. The print-works, carpet and woollen manufactories, shoe and bonnet-making, are of great importance; there is a populous mining, manufacturing, agricultural, and commercial district around; and though the old streets are narrow, those recently erected are wide and spacious.

Irvine (6,866) once had large trade, having been the port of Glasgow before Port Glasgow was built.

Ardrossan and **Troon** are small ports, which ship coal and iron.

Salt-Coats is a small port, much frequented for sea-bathing.

Lanark, or **Clydesdale**, combines agricultural, mining, and manufacturing industries, having extensive and rich coal, iron, and lead mines. This county is naturally divided into three districts—*Upper Ward*, in the S., hilly and mountainous, is largely engaged in sheep farming. Here is (among lead mines) *Leadhills*, 1,323 feet above sea level, the highest inhabited village in Scotland. *Middle*

Ward, with an undulating surface, is partly agricultural and partly mining and manufacturing. *Lower Ward*, in the N., containing Glasgow city, though small, is very important, and has arable land where moors were a few years ago. Dairy farming prevails. It is drained by the *Clyde*, with its tributary, the *Douglas*.

Lanark (5,099), the cap., stands near the "Falls of Clyde," near the middle of the course of that river.

Glasgow (477,144), the largest city of Scotland, and one of the greatest commercial marts in the world, rivals Liverpool in commerce and Manchester in manufactures. The city stands on both sides of the river Clyde, to which most of the principal streets run parallel; the houses being lofty and built of freestone. Many handsome squares and crescents may be seen, and the public buildings are superb; among which the university, cathedral, Hunterian museum, general post-office, custom-house, chamber of commerce, merchants' and trades' houses, bank-houses, city-hall, free church college, normal schools and seminaries, model-school, training-college, athenæum, and library, are the most important. Among the public monuments are, a Grecian doric column to Sir Walter Scott, statues to Sir John Moore, James Watt, the Queen, Sir R. Peel, Wellington, Nelson, etc. *Glasgow* is admirably situated for the development of trade of all kinds. The manufacture of cotton is one of the chief industries, including calicoes, cambrics, lawns, muslins, checks, yarn, and thread. Dyeing, calico-printing, and iron manufactures, are on the most extensive scale. Sugar refining, import and export trade are most important industries. The water supply is brought from Lough Katrine, a distance of 40 miles.

Hamilton (11,496), a very handsome town on the Clyde, has a grammar school and some good public buildings. It is the seat of "imitation cambric" factories; silk veils, check shirts, and some hempen articles are made.

Airdrie (13,487) is a modern town in the midst of iron and coal mines. It has a grammar-school, and has some public buildings.

Rutherglen (9,451) has print and dye works, and several collieries. It is well built, and has constant intercourse with Glasgow.

Linlithgow or **W. Lothian** lies on the Frith of Forth, and has a pleasingly varied surface, three-fourths of which is arable. Coal, limestone, and freestone are abundant.

Linlithgow (3,689), the capital, consists chiefly of one long street, and has the remains of a royal palace. Its trade is trifling.

Borrowstownness or **Bo'ness**, on a point of land jutting into the Frith of Forth, has a good harbour and some local trade.

Queensferry (1,521) is a small port on the Frith of Forth.

Bathgate is a small town with great manufactures of paraffin oil.

Edinburgh or **Midlothian**, with about 12 miles of coast-line, gradually expands in a southerly direction, rising in elevation and culminating in the Lammermuir and Pentland hills. Large tillage farms are found in the low grounds, and pasturage is carried on in the elevated districts; coal is found in the valley of the *Esk*, and sandstone in other places. This county is drained by the *Leith*, which flows from the Pentland hills into the sea at Leith; the *Esk*, formed near Dalkeith of two streams, enters the sea at Musselburgh.

Edinburgh (197,000), the metropolis of Scotland, stands on a group of hills, on the very highest of which is the *Old town*, in which the houses are 12 or 13 stories high, the streets narrow and irregular, with the castle 380 feet above sea level, with precipitous descents all round. The *New town* is regularly built, in the form of a parallelogram, with fine streets, crescents, and squares, unsurpassed by any modern city in beauty and regularity. The third division of the city is the *South side*, which is on rising ground, connected with the old town by three bridges. At the foot of Cannongate-street, stands the palace and abbey of Holyrood, the place where so many stirring and tragic deeds were enacted in Scottish history. This city is mainly supported by its professional classes and university; manufactures, with the exception of printing and publishing, and brewing, are few indeed. The public buildings are magnificent; including the medical halls, society-rooms, club-rooms, hospitals, asylums, assurance-offices, banks, etc. There are monuments to Sir Walter Scot, Nelson, Dr. Playfair, Burns, Pitt, Wellington, etc.

Leith (44,277) is a continuation of Edinburgh, of which it is the port. It carries on an extensive trade with London, Hull, Newcastle, Rotterdam, the Mediterranean, and the Baltic.

Musselburgh (7,506), on the *Esk*, has an excellent grammar-school; and **Portobello** (5,481) with chemical works and tile-making, is frequented as a watering-place.

Dalkeith is well-built on the *Esk*. It has manufactures of beaver and felt hats, some woollens, an iron foundry, and a grammar-school.

Haddington or **E. Lothian**, though not mountainous, has an extremely diversified surface, consisting of a series of

parallel ridges from the shore of the Frith, running E. and W. with a gradual increasing elevation ; about one-third of the surface is under plantations, pastures, and wastes, the remainder being under an excellent system of tillage. The *N. Tyne*, the chief river, abounds in trout, eels, and small salmon.

Haddington (4,000) is the capital, and is perhaps the largest corn market in Scotland. It has the remains of an old abbey, a town-house, library, and some other good buildings. An iron mine is near it.

North Berwick (1,400) is a small town frequented in the bathing season.

Berwick is drained by the *Tweed*, *Lauder*, and *Whiteadder*; it slopes towards the E. and is touched on the N. by the Lammermuir hills. It has a bold, rocky shore. What is called the *Merse* is a district highly-farmed, lying between the Tweed and the Lammermuir hills. Much of the surface of this county is level, and on the slopes of the hills an immense number of sheep is fed. The climate is cold, and subject to great variations.

Greenlaw, the cap., is a very small town on the Blackwater.

Coldstream, on the Tweed, gives its name to the "Coldstream Guards," raised here by General Monk, 1659.

Dunse, the largest town in the county, is the birth-place of the celebrated *Duns Scotus*, and has several good schools.

Lauder (1,046) is a small borough with a town-hall. It was often the place of meeting of the Scotch parliament.

Peebles lies S. of Midlothian ; and is by the Tweed divided into two nearly equal parts. It is more elevated than any other county in the south of Scotland, Broadlaw Hill rising to an elevation of 2,700 ; Hartfell, 2,600 ; Culter Fell, 2,400 ; and Dunrich, 2,000 feet. Much moor and peat bog is found in the county, and the principal occupation is pastoral. It is drained by the *Tweed*.

Peebles (2,200) is a town with a grammar-school, scientific associations, various manufactories, breweries, and corn mills. It stands on the Tweed, and is a railway centre.

Inverleithin has a mineral spring of considerable repute.

Selkirk, almost entirely pastoral, has given rise to much ballad poetry. This county is hilly, particularly in the S. and W.; the highest point, *Ettrick Pen*, is 2,258 feet above sea level. The climate is very damp. It is drained by the *Ettrick*, whose banks are finely wooded, and highly picturesque, and the *Yarrow*.

Selkirk (4,640), an ancient town on the river *Ettrick*, has become the seat of a thriving woollen manufacture. Statues of Sir Walter Scott and Mungo Park adorn its streets; and the history of Sir Walter Scott, and of the poets Hogg and Wordsworth, is intimately associated with the town.

Galashiels, (9,678), on the *Gala*, is one of the principal seats of the woollen manufacture of Scotland; whence the term *Tweeds* arose.

Roxburgh, including the three pastoral districts of *Tweed*, *Teviot*, and *Liddesdale*, lies N. of the *Cheviot Hills*, and has an undulating surface with some elevated ridges properly belonging to the *Cheviot* range. The farming in this county is excellent. It belongs to the basin of the *Tweed* and is drained by that river's tributaries.

Jedburgh (3,322), on the *Jed*, near the *Cheviot hills*, has blanket, flannel, and other woollen manufactures, and an iron foundry.

Hawick (11,355), a manufacturing town, stands on the *Teviot*. Here are manufactories of blankets, shawls, tweeds, tartans, and leather, all in active operation.

Kelso, an extensive town, handsome and regularly built, near the junction of the *Teviot* and the *Tweed*, possesses a spacious market-place, said to be the finest in Scotland. It is much engaged in the shoe trade, and has a large cattle-market.

Dumfries embraces some swamps, and is greatly engaged in the rearing of stock. It is drained by the *Esk*, *Annan*, and *Nith*, from which the three districts of the county are named *Eskdale*, *Annandale*, and *Nithsdale*. Several hills, including *Queensberry hill* (2,251 feet), rise to a considerable height, and have on their tops a stormy and cold climate.

Dumfries (15,435), the cap., is a river port on the *Nith*: it has some woollen manufactures, tanneries, etc., but is chiefly noted

for its stock market. It has a good academy, and many other educational establishments.

Annan (3,170) is a thriving town at the mouth of the river of the same name, with some coasting trade.

Moffat, on the Annan, in the hills, has mineral springs resembling those at Harrowgate, which are much resorted to by invalids.

Kirkcudbright, with a hilly and much diversified surface, interspersed with small lakes, contains the most southern point of Scotland. The coast, except a portion of Wigtown bay, is hilly and precipitous. Cattle and sheep are kept in great numbers; small lakes nicely fringed with wood are numerous in this and the following county. The *Cree* forms the W. boundary of the county, and the *Dee* runs through the centre. This county, with Wigtown, constitute the Stewartry of Galloway or Kirkcudbright.

Kirkcudbright (3,328), the cap., stands on the estuary of the *Dee*, and has imports of coal, lime, and timber. It is in the midst of delightful scenery, and has some good public buildings and a grammar school. It exports granite.

Castle Douglas is a modern and fast improving town, regularly and neatly built, near the *Dee*.

New Galloway (440) is a small town near Loch Ken.

Wigtown, which, with Kirkcudbright, has long been known under the name of Galloway, is hilly, and consequently much engaged in pastoral pursuits. It is deeply penetrated on the S. by Luce Bay, and on the N. by Loch Ryan, both of which afford excellent fishing.

Wigtown (2,000), the cap., is an ancient town, on a bay of the same name, with a town-house, assembly-rooms, and a library.

Stranraer (5,939), at the head of Loch Ryan, has good fishing and coasting trade, particularly with Ireland.

Port-Patrick has a splendid harbour, and is connected by a submarine telegraph with Donaghadee, 21 miles distant.

Newtown Stewart, on the *Cree*, is engaged in the leather trade; and **Whithorn** (1,577) is an unimportant place, near Burrow Head.

TOWNS IN SCOTLAND WITH ABOVE 20,000 INHABITANTS.

Town.	County.	Population.	Industry.
1. Glasgow,	Lanark,	477,144	Commerce and manufactures.
2. Edinburgh,	Edinburgh,	196,500	University, book trade, etc.
3. Dundee,	Forfar,	118,974	Coarse linen ; commerce, etc.
4. Aberdeen,	Aberdeen,	88,125	University ; commerce.
5. Greenock,	Renfrew,	57,138	Extensive commerce.
6. Paisley,	Ditto,	48,257	Silk manufacture.
7. Leith,	Edinburgh,	44,277	Port of Edinburgh.
8. Perth,	Perth,	25,580	A central seat of trade.
9. Kilmanock,	Ayr,	22,952	Woollen manufactures.
10. Arbroath,	Forfar,	20,000	Linen trade, etc.

Mountains.—A chain of mountains may be traced from the Cheviot hills, N., forming the boundary between Dumfries and Roxburgh ; and running south of Selkirk and Peebles, is known S. of Lanark as the *Lowther* hills, but on continuing towards the N., separates the basins of the Clyde and Tweed, and continuing westward forms the eastern boundary of Ayrshire. The *Lammermuir* hills form the boundary between Haddington and Berwick. These constitute the southern mountains.

The Caledonian canal forms a natural barrier between the Northern Highlands and the Grampians ; the latter forming the northern boundary of Perth, and branching northwards through the W. of Aberdeen and E. of Banff, and through the S. of Inverness. The mountains of the Northern Highlands may be traced between Caithness and Sutherland, have many elevated peaks, and running down the W. of Sutherland to Cromarty, continue their course through Ross, until they become lost in the S. of Inverness, and N.W. of Argyle.

The following are the chief peaks, with their approximate heights :—

In the Lowlands :—

Lowther Hill, 2,520, in Lanark.

Ettrick Pen, 2,200 feet.

Hart Fell, 2,635, is in Dumfries.

Cheviot Hill, 2,684, is in Roxburgh.

Goat Fell, 2,865, is in Arran Isle.

Scald Hill, 1,786.

Harper's Rig, 1,802.

Spartledown, 1,750.

In the Central Highlands :—

Hill of Sidlaw, 1,400.

Ben Ledi (with a small lake on its top), 2,863, is in Perth.

Ben Lawers, near Loch Tay, in Perth 3,945 feet.

Schehallion, 3,564, is also in Perth.

Ben Cruachan, 3,670, is in Argyle.

Cairntoul, 4,245, near Ben Avon.

Cairn Gorm, 4,095, is in Aberdeen.

Ben MacDhui, 4,295, is in Aberdeenshire.

Ben Nevis, near Fort William, 4,368. This is the highest mountain in the United Kingdom, and only wants 160 feet of the line of perpetual congelation.*

In the Northern Highlands :—

Ben Wyvis, in Cromarty and Ross, 3,422—Ben Clibrick, 3,158.

Ben Attow, in Ross and Inverness, 4,000.

Ben Dearg, Ross, 3,550.

Ben More, Sutherland, 3,230.

Hills.—The *Ochill* hills, S.E. of Perth, running into Fife ; the *Sidlaw* hills, running from Perth into Forfar ; and the *Campsie Fells*, in Stirling, are the chief.

Plains.—*Strathmore*, lying South of the Grampians, is the most extensive plain. It is 80 miles long, and under a good system of tillage. *Caithness*, which includes three-fourths of the county, is not so fertile in some places as the preceding, and contains hundreds of acres of moor. The only other plain is that of Ayr, also including most of the county of the same name, with rich pastures.

Minerals.—The mineral wealth of Scotland is by no means inconsiderable. A great coal field extends from E. to W., the centre of which may be distinguished by a line from the Frith of Tay to Girvan in Ayrshire ; and here are found all the manufacturing towns, with three exceptions.

Besides the rich beds of coal between the friths of Clyde and Forth, *iron*, *lead*, and *granite*, are also abundant. *Iron* is chiefly found in Lanark, Ayr, Stirling, and Fife, where smelting furnaces are numerous. *Lead* is found in rich veins in the Lowther Hills, and also in Ayr, Clackmannan, Argyle, Peebles, and Inverness ; and in most cases a little *silver* is intermixed with the ore. *Granite* quarries are numerous and valuable, producing abundance of the finest build-

* Two streaks of snow are now visible on the N. side of this peak as the excursionists pass down the Caledonian Canal, 14th September, 1871.

ing materials. The granite of Aberdeen is sent in large quantities to London, while that of Kirkcudbright supplies Liverpool. *Slate* is worked in Argyleshire, and *antimony* is found in Dumfries.

Forests.—Much of Scotland, particularly in the north, is covered with plantations, which greatly add to the natural beauty of the country. Indeed, the sides of barren hills and tops of bleak cliffs are now overgrown with Scotch fir and other trees. Remains of extensive forests are found in Ross, Glenmore, in Inverness, near Loch Rannoch and the River Spey.

Canals.—The Forth and Clyde connects the two Friths, and passes from the Clyde 10 miles below Glasgow, along the N. border of Lanark, passing Kirkintilloch and Falkirk, and enters the Forth at Grangemouth. The whole length is 55 miles, and the depth 7 feet. The Caledonian, by connecting the River Ness with the Loch of same name, and the latter with Loch Lochy, and this again with Loch Eil, unites the Moray Frith with Loch Linnhe. Thousands of tourists go up and down this canal every year. The Crinan canal runs from the sound of Jura to Loch Fyne, and saves a sea voyage of 120 miles. The Aberdeenshire canal is $18\frac{1}{2}$ miles long, and runs from Aberdeen to Inverury, but is now little used.

Rivers.—On the E. are the *Tweed*, *Eye*, *N. Tyne*, *Forth*, *Eden*, *Tay*, *S. and N. Esk*, *Dee*, *Don*, *Deveron*, *Spey*, *Lossie*, *Findhorn*, *Nairn*, *Conan*, and *Shin*.

The *Tweed* rises in Peebleshire, 1,500 feet above the sea level, in the same hill as that in which are the sources of the Clyde and Annan. It flows N. E., and after passing Peebles flows E. across Selkirk, and after forming the boundary between Berwickshire and Northumberland, enters the North Sea at Berwick. During the first 20 miles of its course the stream is exceedingly rapid, and descends 1,000 feet. The most important tributaries are the *Whiteadder*, *Till*, *Leader*, *Gala*, *Teviot*, *Lyne*, and *Ettrick*. The *Tweed* has one of the best salmon fisheries in the British Isles.

The *N. Tyne* is an unimportant stream crossing the N. of Haddington nearly parallel to the coast. Haddington is on its banks.

The *Forth* is formed of two streams from Ben Lomond, which unite at Aberfoyle, from which the river flows E., forms the boundary between Perth and Stirling, passes Stirling and Clackmannan, and after a course of 70 miles enters the Frith of Forth.

The *Tay*, remarkable for its rapid current, rises on the W. of Perth, passes through Loch Tay, winds through Perthshire, where it receives many tributaries, and after passing Blairgowrie, Dunkeld, Scone, and

Perth, enters the Frith of Tay, after a course of 95 miles. It is an excellent salmon river, and shoals of porpoises haunt its mouth in the fishing season. The tide rises to about 2 miles above Perth, to which the river is navigable for small vessels.

The S. and N. Esk are small rivers, running from the Grampian or rather the Clova mountains to the N. Sea, the latter forming the boundaries between Forfar and Kincardine.

The Dee rises in the S.W. of Aberdeenshire in Ben MacDhui, with an easterly course, passes Braemar, Balmoral, and Ballater, entering the sea at Aberdeen, after a course of 9 miles.

The Don, rising on the borders of Banff, in Ben Avon, runs nearly parallel with the Dee, and enters the N. Sea a little more N. than the latter, after a course of 80 miles; Inverury being the only town on its banks.

The Deveron rises on the borders of Aberdeen and Banff, and after a N.E. course of 50 miles enters the Moray Frith at Banff.

The Spey, considered the most rapid river in the United Kingdom, also enters the Moray Frith. It rises in Inverness near L. Lochy, and has a N. E. course, through some of the most romantic scenery, entering the Moray Frith near Fochabers.

The Lossie, Findhorn, and Nairn, have rapid currents, and are subject to floods in their lower courses.

The Conan, rising in Ross, passes through Lochs Fannich and Luichart, and enters the frith of Cromarty near Dingwall.

The Shin rises in the mountains of Sutherland, passes through L. Shin, and enters the Frith of Dornoch.

On the W. are the *Clyde*, *Ayr*, *Doon*, and *Girvan*.

The Clyde, the great commercial river of Scotland, takes its rise in the Lowther Hills, in the south of Lanarkshire, and flows in a north-westerly direction nearly through the centre of that county, forming a valley or plain named Clydesdale. The only town on its banks up to Glasgow is Lanark. Beyond Glasgow the Clyde bends more to the west, forming at its mouth a large estuary named the Frith of Clyde, which separates the counties of Lanark and Renfrew from that of Dumbarton. On this estuary, on the coast of Renfrew, are the towns of Port Glasgow and Greenock. Its most important tributary is the *Douglas*. The commercial importance of the Clyde is only exceeded by that of the Thames. Numbers of vessels, both in the home and foreign trade, traverse its waters daily; and the sound of the ship-carpenter's hammer is heard for miles along its eastern banks, particularly near the town of Greenock.

The slopes of Ayrshire are drained by the *Ayr*, which rises on the borders of Lanark, crosses the county at its widest part, and after a course of 35 miles enters the sea at Ayr.

The *Doon* rises from several small lochs, also on the county borders, passes through Loch Doon, and enters the sea after a course of 20 miles, a little S. of the town of Ayr.

The *Girvan*, further S., is a river about the same size.

On the S. are the *Esk*, *Nith*, and *Dee*.

The *Esk* rises in the N. of Dumfries, in Ettrick Fell, and passing Langholm, enters England, and falls into the Solway Frith below Longtown.

The *Nith*, rising in Ayr, runs through a valley in Dumfries called Nithsdale, receiving many small streams on both sides, and with a wide estuary enters the Solway Frith below Dumfries.

The *Dee* runs nearly parallel with the above river, and falls into Kirkcudbright bay, after forming L. Ken and passing Castle Douglas.

Lakes.—Scotland abounds in lakes, most of which have excellent fish, and many of which are justly admired for their scenery. The principal are Lochs *Lomond*, *Katrine*, *Tay*, *Rannoch*, *Earn*, *Ericht*, *Leven*, *Awe*, *Ness*, *Lochy*, *Shin*, *Doon*, and *Ken*, all of which are, properly speaking, lakes. Those lochs which are arms of the sea will be mentioned under *Coast Line*.

Loch Lomond, much admired for its scenic beauty, is 24 miles long, with a varying breadth from 5 to 1 mile, and covers 20,000 acres. It is studded with about 30 small isles, most of which, with two-thirds of the lake, belong to Dumbarton. It is surrounded by many hills, through which the mountain streams flow in deep gorges. Ben Lomond stands on its E. shore.

Katrine, a little E. of the preceding, is considered one of the most beautiful of Scottish lakes; and a little to the E. are the celebrated *Trossachs*, of wild and fantastic beauty. It is 10 miles long and $1\frac{1}{2}$ broad, and while Lomond is only 250 feet deep, *Katrine* is 450. This loch supplies Glasgow with water.

Tay is 12 miles long, and lies in a direction from S.W. to N.E. It is surrounded by high mountains, one of which is Ben Lawers.

Rannoch is in the W. of Perth, and is a long narrow lake, an expansion of the river Tummel, amidst striking scenery.

Earn, amidst fine scenery, is an expansion of the river of the same name, which flows into the Tay at Perth.

Ericht, on the N.W. of Perthshire, is situated amidst mountains and wild moorland covered with heath; and its surplus waters pass by a river of the same name into Loch Rannoch.

Leven is in Kinross. It is of an oval shape, and contains four islands, on one of which, Castle Island, Mary Queen of Scots signed her abdication, 1568. She soon after escaped from it.

Awe, in Argyle, is 24 miles long, and from $2\frac{1}{2}$ to half a mile broad, with a surface studded with islands.

Ness lies a few miles S. of the town of Inverness, is 24 miles long, bordered by hills in many places well wooded, is of great depth, and never freezes. On the E. is the celebrated *Fall of Foyers*, 277 feet high, rivalling all other waterfalls in the British Isles.

Lochy, about 12 miles further S., is 10 miles long, and 1 broad.

Shin, the largest lake in the N. Highlands, is an expansion of a river of the same name, and runs S.E. through Sutherland.

Doon, on the borders of Ayr, and **Ken**, in Kirkcudbright, are smaller than any of the above, but are very picturesque.

Mineral Springs.—The two chief mineral wells are at Moffat, and at the Bridge of Allen (near Stirling); besides, spas are at Peterhead, Strathpeffer, Bonnington near Edinburgh, Ballater, Inverleithen, and Crieff.

Coast Line.—The coast line, which is most irregular, is above 2,500 miles long. On the E. it resembles the E. coast of England, while on the W. it resembles the W. coast of Ireland. Berwickshire has a bold, rocky shore of no great elevation, St. Abb's head being the most prominent feature. Haddington has a coast similar in character, which rises near N. Berwick, at which is *Ben Law*, 800 feet high. The shores of the frith of Forth are low, without any particular landmarks, but ridges of hills rise in the interior. This inlet is about 50 miles long, and 5 broad between Leith and Burntisland. Passing the coast of the peninsula of Fife and St. Andrew's bay, the frith of Tay runs inland 20 miles, with a breadth varying from 1,200 yards to 3 miles. On the coast of Forfar is the small land-locked bay of Montrose. The shores of this county rise to no considerable height, and consist of a rich and productive soil. No particular physical feature marks the low coast until Buchan Ness is reached, where the land exhibits a bleak appearance, most of it consisting of wild moorland. From Fraserburgh to Fort William (the only fort of the three built on the Caledonian Canal now existing) the shore is low and uninteresting. In some places the rich arable land is almost washed by the tide, while in others rocks abound, and in other places moors exist at the very brink of the sea. The frith of Inverness is land-locked, with low shores on the E., and nicely wooded hills on the W. The frith of Cromarty is also land-locked, and penetrates 8 miles into the land. Tarbet Ness is a prominent feature, and the coast thence to Cape

Wrath exhibits no particular feature, being generally fertile near the mouths of the many streams which water these northern counties, and bleak and dreary in most other places.

On the W. the Scottish coast is for the most part hilly, and bears throughout a great similarity in character. In the summer many tourists visit this coast and the islands on account of the picturesque scenery, now so justly appreciated. The principal places of attraction are *Ströme Ferry* on Loch Carron, *Portree* in Skye, *Oban* on the mainland opposite the isle of Mull (with active coasting trade), *Inverary* on Loch Fyne, and *Rothsay* on the island of Bute. The frith of Clyde, now of so much commercial importance, is not very deep, but is a safe roadstead; some of the largest vessels having to wait at Greenock for the rising tide. Artificially it has been made navigable up to the quays at Glasgow for all coasting vessels, though the river is narrow at this point.

The coast of Scotland on the S. has been sufficiently described in treating of the counties which border upon it.

Railways.—The *Caledonian* commences at the city of Carlisle, crosses the border near Gretna, runs N. through Moffat, and, a little E. of Lanark, divides into two branches, one going N. E. to Edinburgh, the other N. W. through Glasgow, Paisley, Greenock, and ends on the coast at Wemyss bay. This line proceeds from Glasgow N. W. to Alloa, thence through Stirling, and at Dumblane again separates into two branches, one going N. W. through Callander (not yet completed), the other going through Perth, Dundee, Arbroath, Stonehaven, to Aberdeen.

The *Highland* railway runs from Perth, N. W. through Dunkeld, Nairn, Inverness, Dingwall, and Tain (not yet finished to Wick). The other lines are *South Western*, from Kilmarnock to Dumfries; the *North British*, from Berwick to Edinburgh, Aberdeen, etc.

Education.—Scotland has four Universities—Edinburgh, Glasgow, St. Andrew's, and Aberdeen; and although her system of elementary education requires modification to suit the modern requirements, she has had schools in operation for many generations on the parochial system, in which a very sound education is imparted, the course of instruction in every parish including Latin and Greek.

Manufactures.—Scotland has many important manufactures, which, from the industry and perseverance of the people, are steadily increasing.

Cotton is extensively manufactured at Glasgow and Paisley, and

to a limited extent at Kilmarnock. *Linen* of a coarse kind is manufactured at Dundee, Arbroath, and other towns in their neighbourhoods; and fine linen, including diapers and damasks, at Dunfermline and towns adjacent. *Woollens*, though not extensively manufactured, are made at Hawick (blankets, flannels, tweeds, and woollen stockings), Stirling (tartans), Bannockburn, and Kilmarnock (carpets, shawls, and tweeds). *Silk* has Paisley its principal seat (shawls). *Leather* is manufactured at Hawick and Glasgow. *Iron* is very extensively manufactured at Glasgow, Airdrie, Coatbridge, Shotts, and many other places. *Whiskey* is also an active industry, the manufacture being carried on at Campbeltown, Glasgow, and other towns. *Ale* is made in Edinburgh, Alloa, Glasgow, and most large towns. *Paraffin Oil* at Bathgate, West Calder, and other places. *Shipbuilding* is actively carried on at Greenock, Glasgow, Dundee, Leith, and Aberdeen. *Bricks* and *Tiles* are made in the neighbourhood of Glasgow, at Carstairs, etc. *Agricultural Implements* at Stirling.

Agriculture.—Generally speaking, an excellent system of farming is carried out in the southern counties of Scotland, where excellent crops are produced from a soil in many places not naturally fertile.

The most successful tillage is found in Berwick, the Lothians, Perth, and Forfar, where, for the most part, a six-year system of crop rotation is adopted. Wheat is not raised north of the Frith of Forth; but barley and oats succeed in the most northern counties. Sheep and cattle pasturage is followed on the uplands, even on the very highest hills; both the cattle and sheep are of a very small kind.

Commercial Industry.—The commercial industry of Scotland closely resembles that of England. Immense quantities of cattle, sheep, and provisions, are imported from Belfast and Londonderry; and most of the sugar used in the United Kingdom first reaches the banks of the Clyde.

Scotland exports much whiskey, ale, and confectionery; iron goods, books, and periodicals; oil, coal, and carpets; while it imports flax, hemp, and jute; raw cotton, raw silk, and cutlery. Indeed the customs' duties of its great port, Greenock, are only exceeded by those of London and Liverpool.

IRELAND.

Ireland, sometimes called *Erin*, *Hibernia*, and the *Green* or *Emerald Isle*, is the second largest island in Europe. It resembles Great Britain in having its E. shores tame and unbroken, with some sand banks, but very few islands. Like Great Britain, its western shores are much broken up and deeply penetrated by many fine natural harbours, the deep water of the Atlantic coming close to the land. Though Ireland has 14 large harbours capable of receiving the largest vessels, yet her commerce is only in its infancy.

Ireland is washed on three sides by the Atlantic, N., W., and S.; on the N. E., the North Channel separates it from Scotland; and on the E. the Irish Sea and St. George's Channel separate it from England and Wales.

The most northern point of Ireland, Malin Head, is $55^{\circ} 21'$ north latitude; the most southern point is Mizen Head, $51^{\circ} 26'$; the most eastern point is near the entrance to Strangford Lough, $5^{\circ} 26'$ W. longitude; and its most western point is Sybil Head, $10^{\circ} 27'$ west longitude.

Capes and Headlands.—On the E. are *Fair*, *Clogher*, *Howth*, *Bray*, and *Wicklow* heads; *Cahore* and *Carnsore* points; on the S. *Hook* point, *Knockadoon* head, *Roche's* point, *Old Head* of Kinsale, *Mizen* head; on the W. *Dunmore*, *Sybil*, *Kerry*, *Loop*, *Slyne*, *Achill*, *Erris*, and *Teelin* heads; and on the N. *Bloody Foreland*, and *Malin* heads.

Bays, Harbours, etc.—On the E. are *Wexford* harbour, *Dublin*, *Drogheda*, and *Dundalk* bays; *Carlingford*, *Strangford*, *Belfast*, and *Larne* loughs; on the S. *Waterford*, *Dungarvan*, *Youghal*, *Cork*, *Kinsale*, *Clonakilty*, *Crookhaven*, *Dunmanus*, and *Bantry* bays; on the W. *Kenmare*, *Dingle*, *Tralee*, *Liscannor*, *Galway*, *Clew*, and *Blacksod* bays, *Broad Haven*, *Killala*, *Shigo*, and *Donegal* bays; on the N. *Lough Swilly*, and *Lough Foyle*.

Islands.—On the E. are *Copeland* and *Lambay* Isles; on the S. the *Saltee Isles*, *Cove*, *Cape Clear* and *Bear* islands; on

the *W. Valentia*, the *Blasquet*, and *Arran* Isles, *Clare*, *Achill*, N. isles of *Arran* ; on the N. *Inishtrahull* and *Rathlin* islands.

Ireland is 300 miles long from Fair head to Mizen head ; and 170 broad from Howth head to Slyne head.

ULSTER.

Ulster, in the North, is the most industrious, most populous, and most enterprising of the Irish provinces. On the whole, the surface is mountainous and hilly, with a fertile soil in the lowlands, and a high rocky coast, particularly in Donegal and Antrim. Several lakes are found in Fermanagh, Cavan, and other counties ; and *Neagh*, the largest lake in the United Kingdom, is on the borders of Tyrone and Antrim. The scenery of Donegal and Fermanagh is magnificent. Ulster is drained by the *Erne*, *Foyle*, *Bann*, and *Lagan*, with numerous other streams of less importance, and combines agricultural, manufacturing, and mining industries, the last to a very limited extent. Two districts are marked out by the course of the Bann and Lough Neagh—that to the East, the most wealthy and prosperous tract in Ireland, with Belfast as its capital, has been happily called the Irish Lancashire ; that to the W. includes seven counties, and though its manufactures are few, the inhabitants are thrifty and comfortable. This province contains 9 counties.

County.	Area in Acres.	Population.	Capital.
Donegal,	1,193,443	217,992	Lifford on the Foyle.
Londonderry,	522,350	173,932	Londonderry on the Foyle.
Antrim,	745,177	396,000	Belfast on the Lagan.
Down,	612,495	281,775	Downpatrick.
Armagh,	328,076	179,221	Armagh on the Callan.
Cavan,	477,360	140,555	Cavan.
Fermanagh,	457,195	92,688	Enniskillen on the Erne.
Monaghan,	319,757	112,785	Monaghan.
Tyrone,	806,295	215,668	Omagh on the Mourne.

Donegal,* a very mountainous county, with a rugged coast line exposed to the full dash of the Atlantic, deeply indented with creeks, bays, and inlets, is the largest county in Ulster. The coast is penetrated by numerous bays, and many islands lie near it, 17 of which are inhabited. It is drained by the *Erne*, *Finn*, *Derg*, *Foyle*, and *Swilly*, and has seventy thousand acres of bog; the scenery is wild and romantic. Its most important mountain peaks are *Errigal* (2,462), *Bluestack* (2,225), and *Slieve Snaght* (2,020). Marble is produced. This is a purely agricultural county, with the exception of a little linen trade.

Lifford, the capital, has infantry barracks, and stands on the *Foyle*, opposite **Strabane**.

Ballyshannon, on the *Erne*, with extensive and important salmon and eel fisheries, and some coasting trade, is the largest town in the county. The river is crossed here by a bridge of fourteen arches.

Donegal and **Killybegs** are small ports on S. coast; and **Letterkenny**, on the *Swilly*, is the most important town in the N. of the county.

Raphoe has a Royal School, and a little linen trade.

Londonderry,† of a triangular shape, is level along the rivers; but on the borders of Tyrone, where many secluded vales and romantic glens are found, it is mountainous. The surface on the S.E. is flat and of great fertility; but along the sea-coast the soil is more of a sandy nature. This is on the whole a good agricultural county, producing, besides cereals, abundance of flax. Five rivers water the county: the *Foyle*, *Faughan*, and *Roe*, all flowing into **Lough Foyle**; the *Moyola* into **Lough Neagh**; and *Bann*, upon which are valuable salmon and eel fisheries, into the Atlantic.

Londonderry (25,000), the capital of the county, situated on **Lough Foyle**, is the first city in Ulster, and the second town; its population is steadily increasing. It has industry in shirt-making, some of its factories employing 1,500 hands; it has also some

* Anciently belonged to the powerful clan O'Donnell, and then under the name *Earrgal*, included a portion of Fermanagh.

† Anciently the country of the *Darnii*; was long known as the country of the O'Kanes, whose chief seat was in the vale of the *Roe*.

linen trade and a large local trade, which finds an outlet through its lines of channel steamers; it is also a great emigration depot for Canada and the States, both by sailing ships and a line of steamers calling at its port (Moville). In upholstery, boot and shoe making, brewing and distilling, it is also much engaged. It has the Magee Presbyterian College, a fine structure, richly endowed. This city was once walled, and is teeming with historic recollections. It was successfully defended against James II. in 1689, having sustained a siege for several months.

Coleraine, about 5 miles from the mouth of the Bann, is an active industrious town, with good salmon fishing. It has a national model school, several banks, and other good buildings. The river admits vessels of 200 tons to come up to the town, but those of larger tonnage anchor at *Portrush*, a nice watering place a few miles E. of the mouth of the Bann.

Newtownlimavady, on the Roe, one of the most picturesque rivers in Ireland, has a good market of flax and grain.

Magherafelt, with a good flax market, stands in the S. of the county; and a few miles distant is Maghera, burnt in 1641.

Antrim,* overlooking from its bold and rocky promontories the coast of Scotland, is a fine county, combining agricultural and manufacturing industries to a very considerable extent. Nearly one-third of the surface is mountainous†; a coal mine exists near Fairhead, and iron mines are worked along the coast; salt and granite are also found; many fine bogs exist; agriculture is well understood, and cattle rearing on the hilly districts is an important industry. It is drained by the *Bann*, forming its western boundary; the *Lagan*, which flows into Belfast Lough; and the *Main*, which flows into Lough Neagh

Belfast, the capital of Ulster, and the commercial capital of Ireland, is situated at the head of Belfast Lough. It has a population of 176,000, and is the centre of the linen and yarn trade, its mills being very numerous; and if the town is descried from an elevation, it inspires the observer with wonder to see the great long chimneys in

* Anciently *Andruim*, meaning the "habitation upon the waters." The O'Neills claimed the lordship of the county, though the old sept, M'Donnell, had extensive domains here.

† "It is geologically one of the most remarkable districts in the empire. Nearly the whole surface is occupied by basaltic rocks and other members of the trap family, originally ejected from beneath in a fluid state, and spreading over the pre-existing strata, which consists of chalk, green sand, and new red sandstone, now lying beneath them."—*Gallery of Geography*.

hundreds vomiting forth volumes of smoke: at every corner the burr of machinery is heard—the music of industry here sends forth her Babel sounds, and dispenses contentment to a thrifty community. Belfast (with the addition of a few towns in the neighbourhood) is the only town of Ireland which is really progressing by means of manufacturing industry. It contains a Queen's College, one of its most elegant buildings, and a medical school of high standing in connection therewith. It has also a Presbyterian and a Wesleyan College, and many other literary establishments, including a model school, an academic institute, etc. It has great provision curing, shipbuilding, shipping, and glass-making; and, in point of fact, is one of the foremost literary and commercial towns in the empire. A monument to the late Prince Consort has recently been erected.

Ballymena, on the Braid, is in the centre of the county, and is connected by railway with all the leading towns in Ulster. It is a most extensive depôt of the linen trade; and, besides linen, immense quantities of pork, butter, and grain are exported. Lisburn, on the Lagan, is a very important seat of the linen manufacture, including damask and yarn trade. Larne, on the E. coast, has agricultural trade, and some steam communication with the S. of Scotland. Carrickfergus, an old town, formerly surrounded by a wall, and defended by an old castle which still exists, is a fishing station; and is a "county of a town." Here William III. landed in 1690; and here Admiral Thurot landed and took the town, 1760. Ballycastle, on a bay of same name, is much frequented as a watering place: coal and iron mines are worked in the neighbourhood. Portrush is the principal watering place of the county. Ballymoney, in the N., has some linen factories and bleach greens. Antrim, on the N.E. angle of Lough Neagh, has a round tower. Here the insurgents were defeated in 1798.

Down, with an irregular surface, is hilly in the S. and W., where the Mourne mountains rise 2,796 feet, Slieve Donard being the highest peak. It is the most eastern county of Ireland. Strangford Lough, studded with islands, has a dangerous entrance, and penetrates the county for some distance, forming a peninsula called the *Ards*. The industry resembles that of Antrim, but there are more bleach-greens, and a somewhat better system of tillage is adopted. The *Lagan* skirts the N. W. of this county; the *Bann* rises in the S.; the *Newry* river forms the W. boundary, and, together with the Newry canal, connects the navigation of Loughs Neagh and Carlingford.

Downpatrick, remarkable for its manufacture of linen, has a small export trade by means of vessels of 100 tons, which can discharge at the quay, one mile from the town. Here St. Patrick is said to have been buried, 493. **Newry** is an active town with good trade, standing on a river of same name, under the brow of the Mourne mountains. It imports timber and other commodities, and exports provisions. Some linen trade is carried on. It is a military station. **Newtownards** (10,000), an old town at the brink of Strangford Lough, has very extensive weaving. **Gildford**, in the W., has large thread factories. **Hillsborough**, **Dromore**, and **Banbridge**, in the W. of the county, are all seats of the linen trade, the first with a woollen manufactory, and the last with extensive bleach-greens. The watering-places of this county are numerous: *Bangor*, *Rostrevor*, *Warrenpoint*, *Newcastle*, *Hollywood*, and *Donaghadee*.

Armagh, with fine orchards, a genial climate, and a fertile soil, is sheltered by the *Mourne Mountains*, and drained by the *Bann*, the *Callan*, and the *Fane*. The general surface is hilly, rising in the S., in *Slieve Gullion*, to 1,893 feet; much bog exists, but in general the soil is fertile. Black marble and lead are found in this county.

Armagh (7,866), the ecclesiastical capital of Ireland, is built on the *Callan*; has a royal school, an observatory, two cathedrals, and some linen making, together with tanneries, breweries, and flour mills.

Portadown, on the *Bann*, is a great railway centre, and a rising and improving place, with some linen and cambric manufactures, bleach greens, etc. It has a good provision trade.

Lurgan has extensive linen trade and manufactures of cambrics, a coach factory, and extensive bleach-greens. It has good public buildings, including churches, chapels, schools, and banks.

Keady, **Tanderagee**, and **Richhill**, are small towns.

Cavan,* with an undulating surface, interspersed with numbers of lakes, is mountainous on the N. and W. It approaches within about 20 miles on the sea on both E. and W., in which direction the county runs. Its soil is light and poor, and in some parts cold. It is drained by the *Erne* and *Cootehill* rivers.

Cavan, the capital, is a small town now improving, with barracks, and some good shops.

* According to Ptolemy, this county, Fermanagh, and Leitrim, were peopled by an ancient tribe called the *Ernaigh*, traces of whom remain in such words as Lough Erne. Afterwards Leitrim and Cavan were called *Bressny*, or *Bressny O'Reilly*, from the chief clan. Hence the name of such places as *Dresternan*.

Cootehill, with a good flax market, is an unimportant place.

Belturbet, a military station on Lough Erne, is a small town.

Killashandra, **Bailieborough**, and **Kingscourt**, are small towns, with local trade.

Fermanagh,* the distinguishing natural feature of which is Lough Erne, has great varieties of aspect, one of its mountains rising 2,000 feet, and around the lake its surface being considerably depressed. The industry is exclusively agricultural; the peasantry are happy and contented. The county has beautiful scenery, especially along the banks of Lough Erne, where it is well wooded. Tillage and pastoral pursuits are the industries. This county is drained by the *Erne*, and many small streams flowing into it.

Enniskillen, on an island between Upper and Lower Lough Erne, is a fine town with a royal school and a good fair. An obstinate defence was made here against the army of Queen Elizabeth in 1595, and an equally obstinate one against James II. in 1689.

Lowtherstown, or **Irvinestown**, has active trade.

Lisnaskea is an improving place with a good agricultural market.

Monaghan, lying between Armagh and Fermanagh, is a small county in which spade husbandry is still much used. A good deal of the surface is covered with bogs. The usual grain crops are raised, and much flax is cultivated. Some lead was found a few years ago. The *Blackwater*, flowing into Lough Neagh, and some small streams which flow into Lough Erne, drain this county.

Monaghan, on the Ulster Canal and river Blackwater, has agricultural trade, several banks, and a good school.

Clones, one of the greatest railway centres in Ireland, has an active trade in agricultural produce, and is a good market and commercial town. It has a round tower, and was once the seat of an abbey.

Carrickmacross and **Castleblaney** are small fair and market towns.

Tyrone,† centrally situated in Ulster, has a very diversified surface, mountainous in several parts, boggy

* One-tenth of the county is under water, and one-third bog and mountain.

† Long the headquarters of the powerful and turbulent sept O'Neill, one of whom united with Roderic O'Connor in trying to drive the English out of Dublin soon

about the centre. Husbandry has greatly improved, and around Omagh and Strabane, a productive soil renders it very remunerative. Coal and limestone are found.

Omagh, the capital, is a fine town on the Mourne; the population rapidly increasing. It has good public buildings.

Dungannon, an improving town, stands in the E. of this county, and has an active and improving trade. Here the volunteers met, 1782, and demanded the independence of the Irish Parliament.

Strabane, a good town on the Foyle, has an excellent market.

Cookstown, on the Ballinderry, has a fine flax market.

LEINSTER.

Leinster, in the E., containing twelve counties, is, comparatively speaking, a level province with a low sandy coastline of 180 miles, containing few natural harbours, but fairly sheltered from the prevailing winds. The soil is in general very productive, admirable and extensive pastures existing in several counties, and splendid grain crops being also produced. The *Bog of Allen* is the principal physical feature. The occupation of the people is almost exclusively agricultural. Four districts may be distinguished in this province. The First includes Wicklow and Wexford in the S.E., remarkable, particularly in the former county, for the "loveliness and sublimity" of the landscape. The Second includes the level country included under the Barrow valley, including Carlow, parts of Kildare, and Kilkenny. The Third division stretches to the Shannon, and includes the "Bog of Allen," with a barren and uninviting appearance. The Fourth includes Westmeath and Meath, with their superb pastures.

after their landing; another was the abettor of Robert Bruce in his attempt on Ireland; a third seized on Antrim and Down in 1333, which was held for nearly 300 years

Hugh O'Neill, called the *Lame*, after submitting to Henry VIII., was presented by him with a golden collar, and made Earl of Tyrone. On his death his illegitimate son, John, seized on the chieftaincy, and long kept up a desultory warfare against the English, until he was assassinated by M'Donnell, the leader of the Scots, to whom he went for protection. Another Hugh, in 1597, had all Ulster except the forts. It was he who foiled the unfortunate Essex; but he was brought to submission a few years later by Mountjoy, and early in the reign of James I. his estates were confiscated.

County.	Area in Acres.	Population.	Capital.
Louth,	201,434	69,809	Dundalk on Dundalk Bay.
Meath,	579,399	94,480	Trim on the Boyne.
Dublin,	222,709	405,625	Dublin on the Liffey.
Wicklow,	500,178	78,509	Wicklow.
Wexford,	576,616	132,506	Wexford on the Slaney.
Kilkenny,	493,985	109,302	Kilkenny on the Nore.
Carlow,	221,342	51,472	Carlow on the Barrow.
Kildare,	418,436	84,198	Naas.
Queen's County,	424,854	77,071	Maryborough on the Triogue.
King's County,	493,985	75,781	Tullamore.
Westmeath,	453,468	78,416	Mullingar.
Longford,	269,409	64,408	Longford on the Camlin.

Louth,* the smallest county of Ireland, is separated from Down by Carlingford Lough, and from Meath by the Boyne, has a level surface, except in the W., where it is hilly. It is drained by the *Dee* and the *Fane*. It is, on the whole, a good agricultural and pastoral county, but much land along the coast is low, flat, and marshy.

Dundalk,† the cap., is an active port on the bay of same name, with a shallow harbour, has extensive railway trade, a large distillery, some breweries, etc.

Drogheda‡ is a large town, and district of itself with a distinct jurisdiction. The port is favourable for a considerable commerce and coasting trade. A large trade is carried on in butter; it exports corn, cattle, etc., steamboats trading to Liverpool. It has linen and cotton factories, corn-mills, salt-works, breweries, tanneries, and soap-works, with a very improving trade.

* The ancient *Ortel*, or *Urtel*, included this county, part of Meath, Monaghan, and Armagh, and was conquered by De Courcy in 1183. It was ravaged by the Scots under Edward Bruce, who was defeated and slain at Dundalk, 1318.

† In 1177, John de Courcy, an English knight, marched here from Dublin with 320 soldiers, defeated the natives, and established his residence in the town.

‡ Here Poyning's law, the object of which was to protect the nation from, and to maintain the royal supremacy over, the turbulent lords of the *Pale*, was passed 1495. This town was taken by Cromwell, and its people put to the sword 1649.

Carlingford, with an old castle, produces excellent oysters.

Meath,* one of the richest grazing counties, lies within the great central plain, has a soil of rich loam on a limestone subsoil, which, when well cultivated, gives luxuriant crops. It is drained by the *Boyne* and *Blackwater*, which unite at *Navan*. The surface is perfectly level, the only hill being *Tara*. It has ten miles of coast line, but no harbour.

Trim, the cap., stands on the *Boyne*. It is a small town (once walled), with an old castle, in the midst of a great grazing district.

Navan, at the confluence of the *Boyne* and *Blackwater*, has corn and paper-mills and sacking manufactories, and a good cattle market: its exports of corn are considerable.

Kells, pleasantly situated on the *Blackwater*, is a very ancient town; and was early fortified by the English; has a market well supplied with grain, butter, fowl, and vegetables. The neighbourhood is chiefly engaged in grazing and tillage. It has an old castle, erected in 1118, which has some historical reminiscences.

Oldcastle is an old town in the N.W., with an excellent school.

The small watering-place of *Laytown* is becoming annually more frequented.

Dublin,† the metropolitan county, situated near the centre of the E. coast, is studded with villas and mansions, particularly on the S. side of the *Liffey*, the residences of merchants, judges, and the higher government officials. *Dublin Bay*, a large sheet of water, lies S. of the *Hill of Howth*, and is admired for its beauty. The S. of the county is mountainous, rising to nearly 2,000 feet; but the other parts are exceedingly level, productive, and well farmed. It is watered by the *Liffey*, *Tolka*, *Dodder*, and other streams.

Dublin‡ (245,722), standing on both sides of the *Liffey*, is a splendid city, with magnificent public buildings, some fine squares, and many good streets. The city is now fast extending towards the south, where many nice suburban residences have lately been

* Formed with *Westmeath* one of the five kingdoms into which Ireland was divided. The state assembly met on the hill of *Tara* every three years, up to the end of the sixth century. At this place, in 980, the Danes were defeated. Henry II. gave this county to Hugh De Lacy.

† This county was formed by King John, 1210, and included the present county *Wicklow*: that part north of the *Liffey* had previously belonged to *Meath*.

‡ The origin of the name *Dublin* is involved in much obscurity.

erected. The shipping is not very extensive, consisting chiefly in importing grain from the Black and Baltic seas, and manufactured goods from England; and the harbour is shallow, and much interrupted by a bar. Among the public buildings may be mentioned the Bank of Ireland (formerly the Irish Parliament House), the Custom House, Four Courts, College, and many fine banks, insurance and other offices. There is a monument to Nelson, and statues of Goldsmith, Burke, and many others. The Park, on the W. of the city, is one of the finest in the world. Dublin Castle, the official residence of the Lord Lieutenant, is filled with government offices, and is said to have been greatly repaired (if not first built) by King John. There is a quiet dignity in Dublin contrasting with the hurry and bustle of such places as Glasgow or Liverpool.

Rathmines and Rathgar (20,645) are fast rising suburbs, on the S. of the city, consisting of many newly erected houses.

Kingstown (16,387), formerly Dunleary, stands on the coast, and, with a fine harbour, is the chief packet station for England; it is the residence of many of the wealthier inhabitants of Dublin; and is a good fishing station.

Blackrock (7,998) stands in a healthy position on rising ground, between Dublin and Kingstown.

Dalkey (2,591) has lately become a favourite residence.

Howth, an old town, contains the best herring fishery in Ireland.

Balbriggan, the seat of the Irish hosiery trade, is a small port in the N. of the county, with brick and tile making.

Swords, with a round tower, can boast of great antiquity. It has many interesting remains, and a richly endowed school.

Skerries and Malahide are small towns on the E. coast.

Wicklow is well-known as the most beautiful county of Ireland, whose scenery consists in delightful mountains, glens, dales, vales, and waterfalls. Of its mountains, the peaks are naked, but the sides woody, and greatly intersected by romantic glens and valleys. On the E. the lowlands have a dry climate, and a luxuriant soil. It is drained by the *Ovoca* and *Dargle*, and contains the sources of the *Liffey* and *Slaney*. The earliest lambs are found here. Its minerals, including copper, lead, and sulphur, are important. Lough *Dan*, the largest lake in the county, is resorted to by Dubliners for its trout-fishing; near Arklow excellent oysters are found.

Wicklow, the capital, a port, at the mouth of the Vartry, is resorted to for sea-bathing, and exports corn and copper ore.

Arklow, at the mouth of the *Ovoca*, exports minerals, and has a fine herring fishery, though a very bad harbour. The insurgents, who had advanced from Wexford, were here defeated in 1798.

Bray (6,077), partly in Dublin, is the most fashionable watering-place in Ireland, and a fast rising town.

Blessinton, **Enniskerry**, and **Baltinglass**, are neat inland towns.

Rathdrum, on the *Ovoca*, has agricultural trade.

Wexford,* in the S. E., is level on the E., and hilly in W.; and along the coast sand banks abound, which render navigation dangerous. With a productive stiff clay soil, it produces more beans and peas than all the other counties together: flat, unless where it borders on Wicklow. It is drained by the *Slaney*, which traverses it from N. W. to S. E.; and by the *Barrow*, forming its boundary on the W.

Wexford (12,000), the cap., stands at the mouth of the *Slaney*, has a large shallow harbour; carries on an inland trade by the river, and an export trade to Liverpool and Bristol, exporting grain, provisions, cattle, and poultry. The manufacture of malt is very extensive, and the fishing is good. Cromwell took it in 1649.

Enniscorthy, on the river *Slaney*, has a large traffic in corn with England *via* Wexford: a battle was fought here in 1798.

New Ross (4,000), on the *Barrow*, has good export trade, a good wool market, and active industry.

Newtownbarry, on the *Slaney*, has some agricultural trade.

Kilkenny has generally speaking a level surface, with the exception of ridges of hills, which rise in the N. to above 1,000 feet. This is, perhaps, the best county in Ireland for wheat, and its soil is light and loamy. It is drained by the *Nore*, with its tributaries, the *King's River* and *Callan*.

Kilkenny (14,000), a city, parliamentary borough, assize and market-town, is one of the pleasantest inland towns of Ireland. Coal and marble are raised in the neighbourhood; the former is sulphureous, and burns without smoke or flame; the latter, which is black, is much used for chimney-pieces. An extensive trade is done in butter, bacon, and corn, and there are distilleries, breweries, tanneries, and flour mills. The city stands pleasantly on the *Nore*, and has a splendid castle of the Ormond family.

* Before the arrival of the Danes, Wexford was known by the name *Corteigh*, "the maritime country," which seems to enter into the word Enniscorthy.

Thomastown stands on the Nore, and though the situation is favourable, it has very little trade.

Callan, on the King's river, was once walled, and the seat of an abbey richly endowed.

Castlecomer is a well built clean town, with agricultural trade. Near it are the collieries.

Carlow, a well-cultivated county, with a level surface in the centre; that portion adjoining Wicklow, and that W. of the Barrow, being hilly. This is a purely agricultural county; and exports an immense number of pigs and poultry to Liverpool and Bristol. It is watered by the rivers *Barrow* and *Slaney*.

Carlow is a municipal town, standing on the Barrow. It rose round a castle built here about A.D. 1200. The trade in butter, corn, and bacon is very considerable. The flour mills are the largest in the kingdom. The district around is one of the most fertile and beautiful in Ireland;

Tullow, on the Slaney, is an improving town, with an excellent retail trade.

Leighlinbridge, on the Barrow, is a small inland town.

Bagnalstown, an important town, stands pleasantly on the Barrow.

Kildare is the flattest county of Ireland, the only elevation being Rathcoole hills, a continuation of the Dublin mountains. In the centre a table land runs, forming the watershed between the Barrow and Liffey. The *Curragh*, on which is the camp, occupies 5,000 acres, and is a fine sheep-walk, with the racecourse near the centre. Carlow is drained by the *Liffey* and *Barrow*, and traversed by both Royal and Grand Canals.

Naas, the cap., has considerable trade. It has a church, chapel, and convent, diocesan and national school, and infantry barracks. Here occurred the first sanguinary collision between the King's troops and the insurgents of 1798, the former being victorious.

Athy, standing on both banks of the Barrow, is an active town with corn mills and a good grain market.

Newbridge, with large barracks, is the nearest town to the Curragh Camp, and the well known race-course of Punchestown.

Kildare is a small neat town, with agricultural trade and many

interesting antiquities, including a round tower. In dry seasons it suffers much for want of water.

Maynooth, in the N. of the county, is chiefly distinguished for the Royal College of St. Patrick, founded by Pitt, in 1795, for the education of the Roman Catholic priesthood.

Queen's County is mountainous in the N. and W., and in the remaining parts diversified with hill and vale; green crops are extensively raised, and dairies are numerous. This is the best county in Ireland for barley; it is drained by the *Nore* and *Barrow*. Bogs are numerous in the centre, and the Slieve Bloom mountains form its western boundary. In the E. there is a range of hills rising near Timahoe to 781 feet, and a little more S. to 1,079 feet.

Maryborough, the capital, is situated in a charming and highly interesting country, and has the usual county buildings.

Portarlinton is a small town on the *Barrow*, with good schools, in one of which the late Duke of Wellington was educated. It is the smallest borough town in Ireland. **Mountmellick**, on the *Barrow*, has a woollen factory and a brewery. It is the residence of many Quakers. **Abbeyleix**, on the *Nore*, is a clean, nicely-built town. **Mountrath** is a good old market-town, with some agricultural and local trade.

King's County is divided by a series of low hills, running N.E., and separating the N. of the county into two districts, one sloping E., the other W. This part of the county, is well cultivated, but on the S. extends the Bog of Allen, the highest part of which is 286 feet above sea level. Agriculture is the chief industry. The *Brosna* and *Barrow* drain this county. The Grand Canal crosses the county from E. to W., dividing it into two almost equal parts.

Tullamore, the chief town, stands on the Grand Canal, and possesses a large and increasing trade, having two breweries, a distillery, and some factories of bricks, tobacco, and snuff, with much agricultural trade.

Parsonstown, on the Little *Brosna*, one of the most fashionable inland towns in Ireland, is commodious and well-built, and has barracks for 500 men. At Birr Castle is Lord Ross's celebrated telescope, a wonderful achievement of modern science.

Banagher, with a fine horse fair, stands on the E. bank of the Shannon, and exports corn and provisions.

Philipstown, on the Grand Canal, seems gradually sinking in the bogs, going down a few inches every year.

Edenderry, near the Grand Canal, is a neat town.

Westmeath is a flat county, with an undulating surface, interspersed with lakes and bogs, and drained by the *Shannon* on the W., and its tributaries the *Inny* and *North Brosna*. It is a great grazing district.

Mullingar (6,000), the cap., is almost surrounded by the Royal Canal, which communicates with Dublin; it is a military station. The river *Brosna* passes near the town. The environs are pleasing, and diversified with romantic views; it is an emporium for wool, and is noted for a horse and cattle fair.

Athlone (5,000), on the Shannon, a little below L. Ree; was attacked and taken by Ginkle in 1691. It is a military depot, containing two magazines, an ordnance store, an armoury for 15,000 stand of arms, and barracks for 900 men. A good trade is carried on by steamers on the river, and by the railways. It has breweries, distilleries, flour mills, and some agricultural trade.

Castlepollard, **Moate**, and **Kilbeggan** (on the *Brosna*), are small towns of little importance.

Longford, in the extreme N. W. of Leinster, bordering on the Shannon, is a good pasture county, with a level surface, containing much bog. Two industries prevail tillage and grazing, with a little dairy farming. The general slope of this county is W. and S.W. towards the Shannon. Some iron, coal, lead, and marble have been found here

Longford, well built on the Camlin, with a good inland market, is the capital, and a military station. It stands on the Royal Canal, by which it has been very much improved since its opening in 1829.

Granard, a market town, with some good buildings, has agricultural trade, and a weekly market.

Edgeworthstown, the birth-place of the novelist, Miss Edgeworth, is a small town of little importance.

Ballymahon, on the *Inny*, is a small town in which Goldsmith spent much of his early life.

Newtown Forbes stands in the W., in a nicely wooded district.

MUNSTER.

Munster, in the South, containing six counties, has 450 miles of sea coast, with nine or ten magnificent natural harbours. Its lakes and bogs are neither so numerous nor so extensive as those of the other provinces. Several mountains rise to a considerable elevation, and the valleys form rich pasture land. The scenery of Killarney and Glengariff has been universally praised. The industries consist of dairy farming, tillage, and around the coast fishing. Three divisions of this province suggest themselves: I. The undulating plain which includes the greater part of Limerick and Tipperary, including the justly celebrated Golden Vale. II. The district from Waterford to Clonmel, and the E. part of Cork, containing fertile valleys and ridges of hills. III. W. Cork and Kerry, with mountain chains, hill gorges, and romantic scenery in many places.

County.	Area in Acres.	Population.	Capital.
Waterford,	461,553	122,825	Waterford on the Suir.
Cork,	2,846,334	516,017	Cork on the Lee.
Kerry,	1,186,126	196,014	Tralee on Tralee Bay.
Limerick,	680,842	191,313	Limerick on the Shannon.
Tipperary,	843,887	216,210	Clonmel on the Suir.
Clare,	455,009	147,994	Ennis on the Fergus.

Waterford is low and marshy to the E., but mountainous towards the N. W., where the *Knockmeilidown* hills rise to 2,700 feet. Three bays are on the E., Tramore, Ardmore, and Dungarvan, all very good for fishing. It has a valuable copper mine at *Bonmahon*, and limestone quarries near *Cappoquin*; but its chief industry is agriculture. The *Suir* and *Blackwater* drain this county.

Waterford (23,506), the cap., stands on the Suir, 15 miles from the sea, has extensive quays, flour mills, foundries, breweries, etc. It

exports agricultural produce and salmon extensively to Bristol. Its harbour is about 8 miles long, and vessels of 1,500 tons can discharge at the quay. It has a few good public buildings, including banks, schools, churches, etc.

Lismore,* on the Blackwater, has a splendid castle, the seat of the duke of Devonshire. It has a good salmon fishery, and a canal connects the town with the navigable part of the river.

Portlaw, on the Suir, with linen and cotton factories, is the most manufacturing town in the province.

Dungarvan, a fishing town with some coasting trade, is a military station, built on the small river Colligan.

Cappoquin is an old town of little importance on the Blackwater.

Cork, the largest county in Ireland, exhibits every variety of surface and soil, abounds with large rivers, and fine harbours indent its coast. In the N. and E. great fertility abounds; the W. is mountainous. It is a splendid dairy and agricultural county, and has some mining. Three rivers running eastward nearly parallel to each other, drain this county : viz. the *Blackwater*, *Lee*, and *Bandon*.

Cork, the third town in Ireland, stands on the river Lee, and has a population of 80,000. A few years ago it ranked next to the metropolis in size and commerce, but lately Belfast has grown far ahead of it both in commerce and literature. It is the capital of Munster, and its markets regulate those of the southern counties; provisions, grain, and potatoes are largely exported; it is also the best butter market in Ireland; provision curing is actively prosecuted; its glass and leather manufactures are extensive. It has one of the finest harbours in the kingdom, and is a government naval depôt. It also contains one of the Queen's Colleges, a neat structure. Whiskey and beer are manufactured.

Queenstown (10,000) is on the side of a hill on the bay's brink, the residence during the summer months of the wealthier inhabitants of Cork; it is a fast improving town. Here the larger vessels anchor.

Youghal, a very old town on a spacious bay at the mouth of the Blackwater, was incorporated by King John in 1209; it was plundered by the Earl of Desmond in 1579. In 1649, Cromwell made it for a time his headquarters, whence he embarked for England. Sir Walter Raleigh lived here, and introduced the potato and tobacco plants. It has a good salmon fishery.

* *Lis*, a fort, and *more*, great or large.

Bandon, on a river of same name, has frieze and cloth making, together with a distillery, some breweries, and flour mills.

Kinsale, at the mouth of the Bandon, is an active little port with good fishing. The town stands on the slope of a hill.

Bantry, on a bay of same name, is a fishing town, with a good harbour. At *Berehaven* in this district copper mines are worked.

Mallow stands on the Blackwater and has good agricultural trade. It contains many fine public buildings and has mineral springs.

Fermoy, a military station, is regularly laid out, and has good public buildings.

Dunmanway, surrounded by hills, is near the source of the Bandon. It has considerable agricultural trade.

Skibbereen, a brisk and thriving town, on the river Ilen, in the centre of a fertile country, is a good corn mart, surrounded by a number of small towns, much resorted to in the summer as bathing-places; amongst which, for their picturesque scenery, *Glandore*, *Schull*, and *Castletownsend*, may be named.

Kerry has a surface formed of mountain ranges with deep valleys between; a subsoil of slate and red sandstone; iron abounds, and coal is found; copper and lead are found near Tralee and other places. The chief industries are dairy farming, tillage, and fishing. This county is drained by the *Feale* in the N.; the *Maine* and *Laune*, which flow into Dingle bay; and the *Inny* in the S. Much rain falls near the coast. Kerry contains the celebrated "Lakes of Killarney."

Tralee is a good town on the bay of same name, and contains the county buildings. It exports grain and flour.

Killarney is kept up by tourists who resort thither in the summer months from all parts of the world. It has a cathedral.

Listowel, on the *Feale*, in the N. of the county, has agricultural trade.

Dingle, the most western town in Ireland, is a fishing station.

Limerick is a level county sloping from the heights of Tipperary towards the Shannon. It contains most of the Golden Vale, a district of extraordinary productiveness. Some of the very richest pastures in Ireland exist in this county, and dairy farming is a staple industry. It is drained by the *Maigue* and the *Deel*.

Limerick, the capital of the county, is the principal seaport of the south-west; it is situated on the Shannon, and has a population

of 39,000. Like most Irish towns, it has declined of late, which may be ascribed to the want of industrial occupations for the people, and to the injurious effects which the "Corn Laws" had on this agricultural country, it, however, is at present an active city; its trade chiefly consists in the curing of provisions, in the preparation of army-clothing, and in the manufacture of tobacco and snuff; gloves were formerly made, but at present this industry is almost extinct. This city was taken by Ireton, son-in-law of Cromwell, in 1651, where he afterwards died of the plague. It was the scene of a treaty, in 1691, between Ginkle and Sarsfield, when the Irish army went over to France, and, a few years afterwards, fought for that nation against the English. There are salmon fisheries and brush factories here.

Rathkeale, on the Deel, has good cattle fairs. It has the ruins of a castle and a priory.

Newcastle West, on the Arra, has also a good cattle market.

Askeaton, with old ruins, has a grain market. The river Deel, on which it stands, admits small vessels up to the town.

Tipperary, of irregular form, is the only county in Ireland touched by eight others. It is mountainous in some parts, but fertile and productive in others. The centre is a plain drained by the *Suir*. Coal mines are worked at New Birmingham. Besides the *Suir*, it has the *Brosna*, and the *Nenagh*, which join the Shannon.

The principal mountains are:—*Arra*, on the borders of the Shannon, S. of Lough Derg, *Slievenamen* in the S.W., the *Galty* and *Knockmeilidown* in the S., and the *Silver Mines* and *Keever* mountains in the W. The county consists of the North and South Ridings.

Clonmel, on the *Suir*, the capital, has active trade with Waterford in provisions. The town is nicely situated in the midst of a fertile district, and the river, which is crossed by three bridges, is navigable up to its quays. It was besieged and taken by Cromwell in 1650. Its flour mills are probably the largest in Ireland.

Nenagh, the assize town of the North Riding, has an active trade in farm produce, a good market, etc.

Cahir, on the *Suir*, is a nicely built town, with military barracks and flour mills.

Tipperary, a market town, has lately become a great centre of trade, and has a good corn and butter market.

Cashel (3,976), commanding an extensive view, stands on a rock.

Though the residence of the ancient kings of Munster, it is now a town of little importance. It contains many interesting ruins.

Roscrea, built irregularly, has an extensive trade in corn, also in brewing, distilling, tanning, and coarse woollens.

Thurles is an active town, with a good corn market. It has numerous ruins of interest to antiquarians.

Templemore, a military station, in the midst of ruins of many old castles, is in the centre of a nice country.

Carrick-on-Suir has an excellent manufactory of woollen cloth. It ships considerable quantities of agricultural produce.

Clare has a rocky coast, indented with numerous bays. Its surface consists of a plain in the centre, with mountains skirting its boundaries in many places; lakes are numerous, some lead mines are worked, and excellent slates are found. Immense oyster beds abound along a portion of the coast, and good salmon fisheries are on its rivers.

Ennis, on the Fergus, with some flour mills, etc., has *Clare*, a village two miles further down, for its port. Ennis is badly built.

Kilrush, with good fisheries, and a good harbour, has trade in corn, and a manufactory of coarse cloth.

Killaloe is an old town, near which are slate quarries. It has a cathedral, first erected in 1160.

CONNAUGHT.

Connaught, on the West, where the Irish language is still much spoken, abounds with the most beautiful diversity of surface, mountain, hill, river, lake, and woodland. The climate is moist, and rain is more frequent than in any of the other provinces. Besides containing one of the coal fields, it has abundance of marble and granite. It is much less advanced in agricultural improvements than Leinster. It is naturally divided—by a series of lakes and bogs running from Killala Bay to Galway—into E. and W.; the former pretty flat, with hills skirting the plains, includes rich pastures in Roscommon and bleak plains in Galway; the latter hilly and mountainous, and presenting scenery only surpassed by Killarney, is on the coast indented by many good natural harbours. This province has five counties.

County.	Area in Acres.	Population.	Capital.
Galway.	1,566,354	248,257	Galway on the Corrib.
Mayo,	1,303,882	245,855	Castlebar.
Sligo,	461,753	115,311	Sligo on Sligo bay
Letterkenny,	392,363	95,324	Carrick on the Shannon.
Roscommon,	607,690	70,153	Roscommon on the Haoid.

Galway is divided by Lough Corrib into East and West districts, the latter being rugged and mountainous, the former boggy, yet arable. *Connemara*, in the west, is picturesque (the Twelve Pins rising a considerable height,) and though containing much arable land, is dreary looking, and sparsely inhabited. Here limestone and marble are found in abundance. It is drained by the *Suck*, *Shannon*, and *Corrib*. Sheep farming, cattle rearing, tillage, and some fishing, are the chief occupations of the inhabitants.

Galway (13,000), the capital of Connaught, and also of the county of the same name, is situated on the north side of Galway Bay, with a population which is yearly diminishing. It is called the "city of the tribes" from the Spaniards who settled here at an early date, and ingrafted their manners and customs on the inhabitants, which may by a close observer be traced to this day. It was a packet station for America, and the steamers were subsidised by government, but, unfortunately, matters were mismanaged, and the subsidy was withdrawn. It is the seat of a Queen's College, has good fisheries, and capacious wine-vaults from its former intercourse with Spain. It held out for the Stuarts until 1652, and was taken after the battle of Aughrim in 1691 by Ginkle.

Loughrea, on a lake of the same name, has abundance of poultry, and a good agricultural market.

Tuam, a good inland town, with numerous religious establishments, including two cathedrals; has a good market. It is the ecclesiastical capital of Connaught.

Ballinasloe, on the Suck, has the greatest cattle market in Ireland. A branch of the Grand Canal extends from Shannon Harbour to Ballinasloe, and the Midland railway passes the town.

Mayo, flat on the E., but mountainous in the W. and N., and much indented by bays, and bordered by rocky cliffs. The largest island of Ireland is off its coast, and the

peninsula of the Mullet is in the N. W. of the county. It is drained by the *Moy*, flowing into Killala bay, the *Robe*, into Lough Mask. This is a purely agricultural county.

Castlebar is a handsome town, with inhabitants wealthy and industrious. The population is principally occupied in agriculture; pasturage is more attended to in this neighbourhood than tillage; trade is also improving. It has large barracks.

Ballina, a flourishing town, has considerable trade in provisions and grain, with a prosperous salmon fishery. It has a quay a mile from the town, and the shipping is increasing.

Killala, on the bay of same name, is an old cathedral town, where the French landed, 1798.

Ballinrobe is an improving town on the Robe, with a good fair.

Westport and Newport are active little ports on Clew Bay.*

Sligo is a good agricultural county, drained by the *Moy* and *Garrogue*, and producing good grain crops. The surface is in general hilly, and the *Ox* mountains run through the S W. of the county.

Sligo (10,000), pleasantly situated on the Garrogue, by means of which the waters of Lough Gill are discharged into Sligo Bay, admits vessels of 12 feet draught to discharge at the quay, and carries on an extensive trade in corn and butter. It has some coasting trade, and an important fishery. It has two or three good schools, and some banks, and other public buildings.

Ballymote, with a bank, has some agricultural trade.

* "There is nothing in these isles more beautiful and more picturesque than the south and west of Ireland. They who know the fairest portions of Europe, still find in Ireland that which they have seen nowhere else, and which has charms all its own. One might suppose the island just risen from the sea, and newly beamed on by the skies—as if sea and land were there first parting, and the spirit of light and order beginning its work; such is the infinite confusion of surge and beach, bay, headland, river, lake, grass—of land and sea, sunshine and showers, and rainbow over all. Thackeray doubted, and any one may doubt, whether there is in all the earth a grander view than that over Westport to Clew Bay. But the whole coast, west and south, indeed all round the island, has beauties that many a travelled Englishman has not the least conception of. The time will come when the annual stream of tourists will lead the way, and when wealthy Englishmen, one after another, in rapid succession, will seize the fairest spots, and fix here their summer quarters. They will not be practically further from London than the many seats of our nobility in the North-Midland counties were thirty years ago. Eighteen hours will even now take the Londoner to the Atlantic shore, and twenty will soon carry him to the furthest promontory of the island. There are those who will not welcome such a change upon the spirit of that scene; but if we see in the beauty of Ireland even a surer heritage than in hidden mine or fertile soil, why may we not hope that it will again cover her land with pleasant homes, and a busy, contented, and increasing people, such as we see in many other regions with nothing but their beauty and salubrity to recommend them?"—*Times*.

Leitrim, long and narrow, is remarkable for the number of its lakes; has a cold and stiff soil: iron, coal, and lead are found. A small portion of the county reaches the sea; but it has no port. The chief lakes are:—Loughs *Melvin* and *Macnean*, between this county and Fermanagh; Lough *Allen* in the middle, and loughs *Key* and *Baffin* in the S.

Carrick-on-Shannon, a small town without any particular industry, is the capital of the county.

Mohill is a thriving market-town, with improving trade.

Manorhamilton is a small town with agricultural trade.

Roscommon is a flat county, with the exception of that part bordering on Sligo and Leitrim, which is hilly. The soil is fertile, and rich pasture districts are found. Bogs are numerous, and though coal and iron have been found, they have not been worked to any considerable extent. Grazing and tillage are the chief industries. Many large lakes are on the borders of this county.

Roscommon, the county and assize town, is principally an agricultural mart. It has remains of a castle and an abbey.

Elphin is an old town, with a good cattle market. It has a cathedral, and was once a bishop's see.

Boyle, on a river of the same name, near its entrance into L. Key, is a good town, with the remains of an abbey.

Castlerea has a brewery and a provision market.

Tulsk has numerous interesting ruins, but is a mere village.

TOWNS OF IRELAND WITH AT LEAST 8,000 INHABITANTS,

Towns.	Population.	Industries.
Dublin,	245,000	Brewing, lace and tabinet making, and commerce.
Belfast,	176,000	Great seat of linen trade, active commerce, ship-building, salt-refining.
Cork,	78,000	Butter market, butter exporting.
Limerick,	39,000	Ham curing, tobacco and snuff manufactures.
Londonderry,	25,000	Ship-building, shirt-making, commerce.
Waterford,	23,000	Great exports of provisions, fowl, etc.
Drogheda,	14,000	Corn market; cotton factories; export of provisions.
Galway,	13,000	Fishing; wool market.
Kilkenny,	12,000	Woollen manufacture; provision trade.

those of England, and some countries of continental Europe, are insignificant.

Coal.—There are five coal-fields, all of which are worked:—(1) *Antrim*, near the town of Ballycastle; (2) *Tyrone*, near Dungannon; (3) *Leitrim*, near Drumkerin; (4) *Munster*, in Tipperary, near Killenaule; (5) *Kilkenny*, near Castlecomer. No doubt coal exists in other places.

Copper is found in Cork, Wicklow, Tipperary, and Waterford counties.

Lead is found in Armagh, Dublin, and Tipperary.

Pyrites is found in Wicklow.

Marble is found in Kilkenny, Donegal, Fermanagh, and Galway.

Silver is found in very small quantities in Armagh, Wicklow, and Tipperary.

Iron is now found in Fermanagh and in the E. of Antrim.

Sulphur is found in Wicklow.

Rock Salt is raised in Antrim, near Belfast.

Canals.—The canals unite the navigation of many rivers and lakes in the interior of the country.

The **Royal** runs N. of Dublin, passes Mullingar, and enters the Shannon at Lanesborough, after passing through Longford county.

The **Grand** runs S. of Dublin, passes Philipstown and Tullamore, enters the Shannon, at Shannon Harbour, and proceeds to Ballinsloe. It sends a branch to Athy, and another to Mountmellick.

The **Ulster**, joins Lough Erne and Lough Neagh, passing the towns Monaghan and Clones.

The **Newry** connects the navigation of the Bann with Carlingford Lough.

The **Lagan** canal unites this river with Lough Neagh.

The **Boyne** canal runs from Drogheda to Navan and Trim.

The **Shannon and Erne**, which is not yet in operation, connects Lough Allen with Lough Erne, near Ballyconnell.

Rivers.—On the E. are the *Lagan*, *Dee*, *Boyne*, *Liffey*, *Ovoca*, and *Slaney*.

The **Lagan** rises in the centre of the county Down, runs W., passes Dromore, curves round to the N., passes Lisburn, and enters Belfast Lough at Belfast.

The **Dee** rises in Cavan, runs E. through Meath and Louth, and enters the sea S. of Dundalk Bay.

The **Boyne**, rising in King's county, traverses a very flat

country, passing Trim, Navan, and Slane, and enters the Irish Sea at Drogheda. On its banks was fought that important battle, 1690, in which James II. was defeated by his son-in-law William III. Its most important tributaries are the *Deel* and *Blackwater*. Its length is about 65 miles.

The *Liffey* rises in the Wicklow mountains, flows W., passes in a circuitous course through Kildare, and flowing E., enters Dublin bay. On its banks are Blessington, Newbridge, Lucan, and Chapelizod. Its length is 50 miles.

The *Ovoca* is formed of several streams from the Wicklow mountains. It flows S.E., passes Rathdrum, and enters the sea at Arklow. The scenery on its banks is much admired.

The *Slaney* also rises in Wicklow, and running through Carlow, passes from N.W. to S.E. of Wexford county, and enters Wexford harbour. On its banks are Baltinglass, Tullow, Newtownbarry, Enniscorthy, and Wexford. Its length is 60 miles.

On the S. are the rivers *Barrow*, *Suir*, *Blackwater*, *Lee*, and *Bandon*.

The *Barrow* has its source on the N. declivity of the Slieve Bloom mountains in Queen's county. At first it runs northward, winds round to the east, passes Portarlinton, and at Monasterevan turns directly south, passes Athy, Carlow, Leighlin-bridge, Bagnalstown, forms the boundary between Kilkenny, Carlow, and Wexford, passes New Ross, and enters Waterford Harbour after a course of 120 miles. Its most important tributary is the *Nore*, which rises on the same hill in Queen's county, proceeds in a southerly direction, passes Abbey-leix, Kilkenny, and Thomastown, and joins the *Barrow* a little north of the town of New Ross.

The *Suir* also rises in the Slieve Bloom mountains (and hence these three rivers have been called the "three sisters"), drains the great county of Tipperary, through which it runs from N. to S., is turned from its course by the Knockmeilidown mountains, runs N. and then E., forming the boundary line between Waterford, Tipperary, and Kilkenny, and with the *Barrow* forms a noble estuary called Waterford harbour. The towns on its banks are Thurles, Cahir, Clonmel, Carrick, and Waterford. Its length is about 60 miles.

The *Blackwater* rises in the W. of Kerry, and has for the most part an easterly course, passing Millstreet, Mallow, Fermoy, Lismore, and Cappoquin, it enters Youghal harbour. Most of its course has so beautiful scenery that it has been called the "Irish Rhine."

The *Lee* has its principal source in the Caha mountains. Near Macroom it is joined by several streams from the N. It now flows E., and passing Cork, enters Cork harbour.

The *Bandon*, rising a little S. of the source of the *Lee*, runs almost parallel to that river, passes Dunmanway, Ballyneen, and Bandon, and enters Kinsale harbour.

The Shannon rises on the borders of Cavan and Fermanagh, in Mount Cuiltagh, at a considerable elevation above sea level. After a sluggish course of about ten miles it enters Lough Allen, leaves it in a southerly direction, passes Carrick-on-Shannon, and running through Lough Baffin, forms the boundary line between Roscommon, Galway, and Clare on the right bank, Leitrim, Longford, Westmeath, King's county, Tipperary, Limerick, and Kerry on the left. After passing through Lough Ree and Athlone, two miles further south, it makes several bends in its course, passes through Lough Derg, a little south of which, near Killaloe, the navigation is interrupted by waterfalls, avoided by a short canal of two miles in length. After passing Limerick it meets the tide and forms a wide estuary and enters the Atlantic, after a course of 220 miles. In the Shannon the tide rises from 12 to 17 feet, and this noble river is navigable to within 10 miles of its source. Its principal tributaries are on the west—the *Suck* (with a course of 40 miles) and the *Fergus*; on the east are the *Camlin*, *Inny*, the greater and lesser *Brosna*, *Maigue*, and *Deel*, with some smaller streams.

On the N. are the the rivers *Bann*, *Foyle*, and *Erne*.

The Bann rises in the Mourne mountains under the name of Upper Bann, passes Banbridge, Gildford, and Portadown, and enters Lough Neagh. The Lower Bann issues from this lake, divides Antrim from Londonderry, passes Portglenone, and enters the sea below Coleraine. The whole course, including the lake, is about 80 miles.

The Foyle, properly speaking, is formed at Strabane by the junction of the *Mourne* from Tyrone, and the *Finn* from Donegal, passes Londonderry city, and enters Lough Foyle.

The Erne, rising in the S. of Cavan, passes through Lough Oughter, enters the Lough of same name, after passing Belturbet, passes Enniskillen, and enters Donegal Bay below Ballyshannon.

Lakes.—The principal lakes of Ireland are *Neagh*, *Erne*, and *Oughter* in Ulster; *Gowna*, *Sheelin*, *Derravaragh*, *Owel*, and *Ennell*, in Leinster; *Conn*, *Mask*, *Corrib*, *Gill*, *Melvin*, *Allen*, *Baffin*, *Ree*, and *Derg*, in Connaught; the lakes of *Killarney* in Munster.

Neagh is the largest lake in the United Kingdom. It receives the rivers Bann, Blackwater, Ballinderry, and Main, and covers 150 square miles, being 17 miles long and 10 broad. Its waters have been noted for their petrifying qualities.

Erne is divided into two parts, and is drained by a river of the same name. It produces abundance of good fish, is studded with about 100 islands, and is well wooded on the shores.

Oughter is also an expansion of the river Erne, and of an irregular shape. It also produces many varieties of fish.

Derravaragh is a large lake near Mullingar.

Owel lies a little further S. than the previous lake.

Ennell, often called *Belvidere*, is $4\frac{1}{2}$ miles long and $1\frac{1}{2}$ broad and stored with fine fish.

Conn is bordered on the W. by hills and mountains, and the E. by a level country.

Mask, remarkable for its excellent trout, is a fine sheet of water also bordered on the W. by mountains, and on the E. by lowlands.

Corrib is the second largest lake in Ireland, and lies 3 miles S. of Mask, whose surplus waters it receives through a subterranean channel, the stream being in several places visible on the surface.

Gill is remarkable for its picturesque scenery.

Melvin is surrounded by hills in almost every direction. Its salmon and trout fishery cannot be excelled.

Allen, shaped much like a triangle, is surrounded by bogs and marshes. It is 8 miles long, and 3 or 4 broad.

Baffin is of a very irregular form, and consists of two or three lakes bearing different names.

Ree, an expansion of the Shannon, is one of the best fish lakes in Ireland. Several islands, some nicely wooded, are on its bosom; and with a broken outline it is 17 miles long.

Derg,* an expansion of the Shannon, is 24 miles long, from 2 to 6 broad, and from 10 to 80 feet deep. Its surface is studded with islands.

The lakes of **Killarney** are three in number—the *Upper*, which is $2\frac{1}{2}$ miles long and $\frac{3}{4}$ of a mile wide, with many beautiful islands on its surface; the *Middle*, which receives the surplus waters of the former by the Long Range river, is 3 miles long; and the *Lower*, which is 5 miles long and 3 miles broad, has about 30 isles on its bosom; and its greatest depth is 252 feet. Nothing can exceed the natural scenery of these lakes surrounded by mountains of graceful outline, beautifully wooded, with evergreens and other trees.

Mineral Springs.—The principal mineral springs are at Mallow, Clonmel, Lisdoonvarna, Lucan (near Dublin), Swanlinbar (in Cavan), and Ballinahinch (near Belfast).

Coast Line.—The coast line of Ireland, including the inlets marked by the penetration of the tide, is above 2,200 miles in length, and contains numerous fine harbours, 14 of which are capable of receiving the largest vessels.

* Another *L. Derg* is in the S. of Donegal, surrounded by dreary moors and bleak hills. It is subject to violent gusts of wind; and on one of its many isles stands St. Patrick's Purgatory, a place of pilgrimage still much frequented.

Dublin bay, which is large and spacious, though not deep, is skirted on the N. by the Hill of Howth, a promontory rising 460 feet above sea level. The coast, as we proceed N., is low; and passing Malahide, a small watering place, *Lambay* isle, the isles called *Skerries* (four or five in number), no important bay is seen until the estuary of the Boyne, which forms a good harbour five miles long, is reached. Passing the low shores of Louth, with Clogher head, we arrive at Dundalk bay, an inlet about 10 miles wide at its entrance, but rather shallow. The peninsula lying between this bay and Carlingford lough is hilly and mountainous, some of the summits rising from 1,600 to 1,900 feet. The Mourne mountains come near the southern shore of the county Down, on the E. of Carlingford lough, a well-sheltered roadstead, with some sunken rocks at its entrance. Dundrum bay has a wide entrance; but Strangford lough, owing to a strong current at its mouth, and some rocks, is not a safe harbour. This lough cuts off a peninsula called the *Ards*, the coast of which is, in many places, bold and rocky. The small Copeland isles are at the entrance to Belfast lough, a safe roadstead, about 90 feet deep, and five miles wide at its mouth. On the Antrim side, the coast is, for the most part, rocky. Further north are Larne lough and Red bay. Fair head, the N. E. point of the island, is a bold promontory, between which and Bengore head lies Ballycastle bay, and 2 miles from its shore. *Rathlin* island, (rising 450 feet), a very good fishing station.

A few miles further W. is the celebrated *Giant's Causeway*, which "extends above 1,000 feet in length at low water, and consists of polygonal pillars, so closely and regularly joined together that their top is a perfectly smooth platform." Nothing particularly marks the N. coast until we arrive at Lough Foyle, the entrance to which (only one mile wide) on the E. being called Magilligan's point, and on the W. Innishowen head. This lough is 12 miles long, and is a safe harbour up to Derry city. The N. and W. of Donegal are rocky and mountainous, wild and rugged. Malin head is cold and bleak. Lough Swilly is irregular in shape, and has many islands on its surface. Teelin head is the most W. point in Donegal, the boundary between which and Leitrim is the river *Downe*. Donegal bay, much exposed to the Atlantic, is large and spacious, and at considerable depth. *Bundoran*, a much frequented watering-place, is in Donegal. The coast is now low and tame. Sligo harbour contains two bays | Sligo, on which is the town of this name, and Ballysodare, more to the W. Killala bay separates Mayo from Sligo, and is pretty deep, with good salmon and trout fishing in the rivers which enter it. Killary bay, extending seven miles inland, receives the largest vessels. Blacksod bay and Broadhaven are equally good harbours, the former being completely land-locked. *Belmullet* is a peninsula, on the N. of which is Erris head. A little further S. is *Achill* island, containing 35,000 acres. In Clew bay, about 17 miles

W. from Westport, is Clare island, and more S. Innishturk and Innishboffin. The W. of Galway contains the rugged district called Connemara, containing the mountains known as the "Twelve Pins," remarkable for their picturesque beauty. Galway bay contains many large islands, and has not proved a very safe harbour, owing to the prevalence of sunken rocks. The N. sound and the S. sound lie N. and S. of the Arran isles. From Black head in Galway bay to Loop head, the only inlet on the rocky coast of Clare is Liscannor bay, of small importance, except for sea-bathing. The entrance at the mouth of the Shannon is 10 miles wide. Tralee bay is S. of Kerry head; and Smerwick * bay, further S., is the place where a small Spanish force effected a landing in 1578, and were soon after defeated. Dingle bay, (S. of the Blasquet isles, Sybil and Dunmore heads, extends) many miles inland, and is a fine deep harbour. Still further S. is Valentia island, very fertile, now containing the terminus of the Atlantic cable. A mountainous promontory lies between Dingle bay and Kenmare river; and Bantry bay, a splendid natural harbour running 25 miles inland, separates Cork from Kerry. Mizen head and Cape Clear are prominent points a little further E. the former rising 750 feet. Cape Clear Island has only a few inhabitants, and is bold and rocky. On the S. of Cork the inlets penetrate the land deeply. Glandore, Clonakilty, and Courtmacsherry bays, together with Kinsale, Cork, and Youghal harbours, are the most important. Cork harbour contains in its bosom the *Cove*, and is one of the finest harbours in Europe. *Spike Island* on which is a convict establishment and artillery barracks, serves as a breakwater to the inner harbour. Passing Ballycotton bay, wide and open, we arrive at Youghal harbour in the county of Waterford, which receives the Blackwater. Passing Tramore bay, we meet Waterford harbour, a fine inlet of the sea, separating the counties of Wexford and Waterford. It is deep and clear, and capable of receiving large ships; and has some active trade. Hook head is the most southern point of Leinster, and is on N. of Waterford harbour. Going east from this point, we pass the *Saltee* isles, and arrive at Carnsore point, the S. E. extremity of Wexford. The harbour of Wexford is land-locked and secure; very narrow at entrance; widens into a fine bay, but its utility is impeded by a bar at the mouth, leaving only 18 feet of water at high tide. The east coast of Leinster is comparatively even and tame, there being no bay deserving of the name from Wexford to Dublin. Bray Head is 722 feet high.

Irish Railways.—1. The Midland Great Western, connecting Dublin with Galway, Sligo, and Westport, has seven capitals of counties on it, and proceeds through Mullingar, Athlone, Roscommon, Boyle, and Castlebar.

* A contraction of Saint Marywick.

2. The Great Southern and Western connects Dublin with Cork, Tralee, and Limerick, and has twelve capitals of counties on it. It proceeds through Kildare, Portarlington, Maryborough, Thurles, Charleville, and Mallow (Killarney to Tralee) to Cork.

3. Dublin is connected with the N. of the island by various lines of railway, proceeding through Drogheda and Dundalk to Newry, Portadown, Belfast, Coleraine, Londonderry, and Ballyshannon.

The principal Railway Centres are at Clones, Portadown, Mallow, and Limerick Junction near Tipperary.

Education.—Ireland has two Universities—Trinity College, Dublin, founded in 1591, and richly endowed; and the Queen's University, consisting of colleges in Belfast, Cork, and Galway, founded in 1849. The education of the middle classes is carried on in the Royal Schools, those of Erasmus Smith, and several others established by private enterprise. The *National Schools*, which have conferred great benefit on the country, are attended by nearly one million of children. The "Christian Brothers" schools, and those of the "Church Education Society," are also numerous attended.

THE COMMERCE AND MANUFACTURES OF IRELAND.

Both the commerce and manufactures of Ireland are on a very limited scale when compared with those of the sister isle. Intercourse in trade is chiefly carried on with England: and to a less extent with America, Scotland, and the continent. Irish commerce mainly consists in the exportation of agricultural produce, cattle, and linen goods, and the importation of colonial produce, wines, brandies, cutlery, machinery, coal, groceries, earthenware, hardware, and manufactured goods. Dublin is the greatest commercial depot of the country; the other chief trading towns are Belfast (mainly exporting linen), Cork and Waterford (mainly exporting provisions), Drogheda, Dundalk, Limerick, Londonderry, Newry, New Ross, Galway, and Wexford. Cattle and pigs are principal articles of the export trade, and it is estimated that 14 millions' worth are annually shipped to Great Britain. Butter, fowl, eggs, bacon, lard, corn, flour, and meal, are also largely exported. The northern towns monopolize the trade in linen; it is computed that 12 millions' worth of this article is annually exported. The salmon of the Shannon, Moy, Erne, Bann, Suir, Blackwater, Boyne, and other rivers, also constitute an important article of commerce. Trade with England is mainly carried on through Liverpool, Bristol, Milford, and Holyhead; and trade with Scotland through Glasgow and Greenock.

From the comparative scarcity of the necessary minerals, as well as their disposition (the coal and iron not being found in sufficient quantities together), we find that Ireland is by no means so well adapted to carry on extensive manufactures as England. Linen, the staple manufacture, is almost wholly confined to the province of Ulster, and has its centre at Belfast. The manufacture of cotton goods has declined; it is still carried on to a small extent in Belfast, Drogheda, and Portlaw. Woollen goods are manufactured very generally for home consumption, as flannels, friezes, and tweeds and stockings. Poplin, a fabric of silk and worsted, and ornaments in bog-oak, are made in Dublin. Limerick manufactures gloves, and army-clothing. Distillation is carried on in various parts, especially in Dundalk, Cork, and Dublin, and the Irish whiskey, now much used in England, competes with the Scotch in strength and flavour. Breweries are numerous and extensive; those of Dublin, Cork, Kilkenny, Waterford, and Drogheda, are worthy of note. Paper is manufactured at Dublin, Navan, Galway, and other places. There are tanneries in all the important towns. In Donegal many females are employed in the worked muslin trade, and kelp is made on the shores and exported to Glasgow. Numerous other minor articles, as soap, candles, coarse earthenware, sail-cloth, ropes, etc., are manufactured for home use. Belleek has famous potteries. The want of capital, combined with a feeble spirit of enterprise, has hitherto proved a barrier to the prosperity of Irish manufacturing industry. It is indisputable that the more extensive introduction of manufactures, as affording a means of regular employment, would be highly beneficial to the lower classes in Ireland.

IRISH MANUFACTURES.

The linen manufacture is the principal, Belfast being its chief seat; together with Lisburn, Ballymena, Newtownards, Lurgan, Portadown, Newry, Carrickfergus, and Portlaw, in county Waterford.

Cotton is manufactured, as already stated, to a limited extent at Belfast, Drogheda, and Portlaw.

Woollens.—A kind of coarse woollen cloth called frieze, is made in many places; Mountmellick, Kilkenny, Lisbellaw, Hillsborough, Mullingar, Kilmacthomas, Waterford, Bailieborough, Carrick-on-Suir, and Blarney. Tweeds are now made at *Navan*, *Blarney*, etc.

Tabinets, Lace, and Poplins, are made in Dublin.

Glass is made in Belfast, Cork, and Dublin.

Iron Foundries are in Mountmellick, Wexford, Cork, Dublin, and Belfast.

Hosiery is very extensively manufactured in Balbriggan.

Whiskey is very extensively made in Dublin, Belfast, Coleraine, Dundalk, Cork, Bushmills, Limerick, Bandon, Londonderry, Comber, Lurgan, Birr, and Galway.

Beer is made in Dublin, Castlebellingham, Bandon, Cork, Newtownards, Ballygawley (Tyrone), Birr, Newry, Skibbereen, Drogheda, Tullamore, Londonderry, Tralee, Dungarvan, and other places.

Pottery Ware.—Belleek has lately become famous for its pottery.

Leather is made in Dublin, Newry, Belfast, Coleraine, Cork, Bandon.

Paper.—Dublin, Antrim, Navan, Belfast, and Armagh, have paper manufactures.

Gunpowder is made at Ballincollig (near Cork): shot, at Ballycorus, S. of Dublin.

Cambrics are made at Lurgan and Portadown.

Tobacco and Snuff are manufactured in Dublin, Cork, Limerick, and all the large towns.

Thread.—Gilford (county Down) is the greatest place for thread factories in the United Kingdom.

Shipbuilding is of little importance as an Irish industry; Belfast, Londonderry, Dublin, Cork, have some shipbuilding; but it is only at Belfast the largest vessels are made; one at present nearly completed is, next to the Great Eastern, the largest vessel in the navy.

Corks and Glass Bottles are made in Dublin, Cork, and Belfast.

Fisheries.—Salmon fisheries are at the towns of Coleraine, Ballyshannon, Sligo, Ballina, Galway, Limerick, Bandon, Youghal, and Drogheda; herring, at Howth, Arkow, and Ardglass (co. Down); also to a less degree all round the coast. Almost every other variety of fish common to the British seas is found on the Irish coast.

IRISH AGRICULTURE.

The occupation of nine-tenths of the population of Ireland consists in agricultural pursuits, subdivided into grazing, tillage, and dairy farming. As yet, chiefly for lack of capital, few of the agricultural improvements of England have been introduced by the Irish farmers. On many large farms, however, we find the application of steam power successfully introduced. The best grazing counties are Meath, Roscommon, and Limerick.* The pre-eminently sheep counties are Wicklow, Galway, and Kildare. *Pigs* are numerous in Wexford and

* Those producing the greatest number and best quality of fat cattle.

almost every other county. *Goats* are most numerous in Kerry, and *Asses* in Cavan, Kerry, Cork, and Galway.

Down, Tyrone, Donegal, and Londonderry, are the most remarkable *Flax* counties. *Green Crops* are most extensive in Cork, Tipperary, Galway, and Tyrone: *beans and Peas* in Wexford much more than in any other county. *Wheat* is largely produced in Kilkenny, Down, Tipperary, and Cork: *oats* in Meath, Cork, Tipperary, Tyrone, Antrim, Down, and Donegal. The Queen's county raises most *Barley*; and Antrim, Cork, and Wexford, most *Hay*. *Potatoes* are produced abundantly in every county of Ireland; but Kilkenny, Wexford, Cork, Antrim, and Tyrone give most of them, in proportion to their size. *Turnips* are raised largely in Queen's county, Mayo, Tipperary, Cork, Donegal, and Galway. *Dairies* are kept mostly in Cork, part of Limerick, and Kerry. *Horses* are most numerous in Dublin, Wexford, Cork, Antrim, and Down, Tipperary, Cavan, Mayo, Galway, and Wexford. Out of an area of 20 millions of acres, about 15½ millions are arable.

LATITUDES AND LONGITUDES.

PLACES OF THE SAME OR VERY NEARLY THE SAME LONGITUDE.

Degrees.

- 1½ E. Canterbury, Ipswich, Norwich.
- ½ E. Hastings, Maidstone, Chelmsford, King's Lynn.
- 0 Lewes, London, Boston, Grimsby.
- ½ W. Guildford, Windsor, Bedford, Lincoln, Whitby.
- 1 W. Portsmouth, Reading, Nottingham, York, Lerwick.
- 1½ W. Southampton, Warwick, Derby, Sheffield, Leeds, Shields.
- 2 W. Poole, Cheltenham, Walsall, Leek, Berwick, Frazerburgh.
- 2½ W. Dorchester, Bristol, Hereford, Bolton, Blackburn, Appleby, Kelso, Dunbar, Montrose, Banff.
- 3 W. Bridgewater, Newport, Monmouth, Liverpool, Carlisle, Dundee, Kirkwall.
- 3½ W. Exeter, Merthyr Tydvil, Denbigh, Workington, Dumfries, Perth, Thurso.
- 4 W. Swansea, Bangor, Kirkcudbright, Glasgow, Stirling, Dornoch.
- 4½ W. Liskeard, Douglas, Wigtown, Kilmarnock, Paisley.

- 5 W. Truro, Milford, Stranrear, Rothsay, Inverary,
Cape Wrath.
- 5½ W. Penzance, Donaghadee, Oban.
- 6 W. Land's End, Dublin, Belfast.
- 6½ W. Wexford, Dundalk, Portadown, Ballymoney,
Stornoway.
- 7 W. New Ross, Carlow, Athy, Monaghan.
- 7½ W. Carrick-on-Suir, Mountrath, Tullamore, Granard
Lifford.
- 8 W. Youghal, Athlone.
- 8½ W. Cork, Limerick, Sligo.
- 9 W. Ennis, Galway.
- 9½ W. Killarney, Kilrush, Westport.
- 10 W. Clifden, Achill Isle, Belmullet.

PLACES OF THE SAME OR VERY NEARLY THE SAME LATITUDE.

Degrees.

- 51 N. Winchester, Salisbury, Taunton.
- 51½ London, Bristol, Cardiff, Bantry.
- 52 Ipswich, Buckingham, Tewksbury, Cheltenham,
Hereford, Brecknock, Youghal, Cork.
- 52½ Lowestoft, Birmingham, Montgomery, Enniscorthy,
Kilkenny, Limerick.
- 53 Boston, Nottingham, Stoke, Newcastle, Wicklow,
Athy, Maryborough.
- 53½ Sheffield, Manchester, Liverpool, Dublin, Athlone,
Ballinasloe.
- 54 York, Lancaster, Dundalk, Cavan, Boyle.
- 54½ Whitby, Darlington, Appleby, Newtownards, Bel-
fast, Omagh, Ballyshannon.
- 55 Newcastle, Carlisle, and Londonderry.
- 55½ Jedburgh, Selkirk, Ayr.
- 56 Dunbar, Leith, Falkirk.
- 56½ Dundee, Perth, Oban.
- 57 Stonehaven, Balmoral.
- 57½ Inverness.
- 59 Kirkwall.
- 60 Lerwick

ADDITIONAL NOTEWORTHY PLACES IN THE UNITED KINGDOM.

[The learner must know at least the position of each county in the British Isles and its Capital, before he can avail himself of this important list of remarkable places.]

Abbotsford, on the Tweed (Rox.), the residence of Sir Walter Scott.

Abergele (Denb.), a village, where an accident occurred to the Irish mail train by an explosion of petroleum oil, when 14 persons, including Lord Farnham and Judge Berwick, were burnt to cinders.

Abernethy (Perth), the capital of the ancient Picts, has one of the two round towers in Scotland.

Abingdon (Berks), 6,000, on the Thames, formerly the seat of an abbey, has trade in malt and some sack-making; attacked twice by the Royalists, 1644-5.

Adare, a small town (Limk.), has the ruins of three abbeys.

Aldershot (Hants), has become important from the establishment of a permanent barrack and camp, which has attracted many tradesmen and mechanics to the district.

Alford (Aber.), where Montrose defeated General Baillie and the Covenanters, 1645.

Alfreton, a town (Derby), has manufactures of stockings.

Amesbury or Ambresbury (Wilts), the birth-place of Addison (1672), one of the purest writers in the English language.

Amersham, a town (Bucks), has manufactures of black lace, straw-plait, and wooden chairs.

Andover, 5,500 (Hants), on the border of the Downs, an important agricultural town where the matting trade is carried on; it has a silk stocking manufactory. It has also a good grain market.

Ardmore, a good watering-place (Waterford), has a round tower.

Arundel, 3,000, on the Arun (Sus.), has a considerable export trade in corn and timber; here is Arundel Castle, the seat of the Duke of Norfolk.

Ascot (Berks), is noted for its races.

Ashford is a flourishing town of Kent, where one of the largest stock markets in the county is held. It is in the midst of the hop and agricultural districts, and near it the S. E. Railway Company have established their extensive locomotive and carriage manufactories.

Ashbourne—(i.) a town (Derby), with a good cheese market and lead mines; (ii.) in Meath, near which is a race-course.

Athelney (Som.), an island between the Parrot and Tone, at their junction, with a forest in which Alfred the Great concealed himself from the Danes, 878.

Athenry, a town (Galway), where the Irish septs were defeated with great slaughter, 1316. Extensive ruins are near the town.

Atherton Moor (Lan.), where the royalists defeated Fairfax, 1643.

Aughrim, Aghrim—(i.) a village (Gal.), where the army of James II. was defeated by that of William III., 1691, and St. Ruth, the commander of the former, slain; (ii.) an unimportant village in Wicklow.

Aylesford (Kent), where the first battle was fought between the Britons and Saxons, 455.

Axminster, 3,000 (Dev.), on the Axe, where excellent carpets were formerly made.

Bala, a town in Mayo, with a good cattle market.

Ballinahinch—(i.) a town (Down), with a spa well; where the insurgents were defeated, 1798; (ii.) a village in Galway, has a very good salmon and trout fishery.

Ballinamuck, a village (Longford), near which the French under Humbert were defeated and compelled to surrender by the king's troops, under Lord Cornwallis, 1798.

Ballachulish, a small town (Argyle) with extensive slate quarries. It stands on Loch Leven, near the entrance to Glencoe.

Ballyragget, on the river Nore (Kilkenny), has the ruins of a castle, and near it is the cave of Dunmore, entered by an arch 50 feet high, containing many curious chambers within.

Balmoral, in S. of Aberdeen, the Scotch residence of Queen Victoria, beautifully built on the Dee.

Baltimore, a village (S.W. of Cork county), where the Spaniards landed, 1602; it was sacked by the pirates of Algiers, 1631.

Bannockburn, battle of, 1314. See Stirling.

Bantry Bay (Cork). Here the French fleet was defeated, 1689; a mutiny broke out here, 1802.

Barking, on the coast (Essex), is inhabited by fishermen who supply the London markets.

Barmouth, in Wales, in the midst of nice scenery.

Barnet (Herts), on the borders of Middlesex, where Warwick the Kingmaker was slain on Easter Sunday, 1471.

Basingstoke (Hants) has malting and corn trade.

Bass Rock, rising 420 feet high, in the Frith of Forth; last place held out for the Stuarts.

Battle (Sus.), where William I. built an abbey, 1066.

Battersea, on the Thames (Sur.), remarkable for its park and gardens, lately much improved.

Beachy Head, a bold headland 563 feet high (Sus.), off which the French fleet, under Tourville, defeated the English and Dutch fleets, under Torrington, 1690.

Belleek, a village (Ferm.), the only place in Ireland where porcelain is manufactured.

Benburb, near Moy (Tyrone), where O'Neill defeated the Parliamentarians, 1646.

Berkamstead, 3,500 (Hertford), the birth-place of the poet Cowper, has considerable trade, and a grammar school.

Berkeley Castle (Glos.), the birth-place of Dr. Jenner, the discoverer of vaccination. Here Edward II. was murdered, 1327.

Bessbrook (4,000), in Armagh, a little paradise, without a policeman or a public house; it has linen factories on an extensive scale.

Bicester, an important agricultural, commercial, and sporting town (Oxford), has cloth and sacking manufactories, and a brewery.

Bishop-Auckland (Dur.), a town, whose name is derived from the palace of the Bishop of Durham, originally erected in the 13th century, but almost entirely rebuilt by Bishop Cozens.

Blackheath, near Greenwich (Kent), where Wat Tyler's, and also Jack Cade's adherents encamped, 1381 and 1451.

Blair Athole, in Perth, is noted for its delightful scenery.

Blandford (1536), on the Stour (Dorset), has extensive manufactures, of shirt buttons.

Blarney (Cork), a village in which there is an active manufactory of woollens and tweeds. Its castle was besieged by William's army 1690.

Bloreheath (Staff.), where the Yorkists defeated the Lancastrians 1459.

Boroughbridge (York). Here the army of Lancaster was defeated by Edward the Second's troops, 1322.

Boscobel (Shrops.), where Charles II. concealed himself after the battle of Worcester, 1651.

Bosworth, a village (Leicester), where Richard III. was defeated and slain by Harry Richmond, afterwards Henry VII., 1485—the last battle of the "Wars of the Roses."

Bothwell Bridge (Lanark), where the Covenanters' troops were defeated by Monmouth, 1679.

Bournemouth, a fashionable watering place on Poole Bay (Hants).

Braddock down (Cornwall), where the Parliamentarians were defeated by the Royalists, 1643.

Bridgend (Glamor.), a town on the Ogmore, has woollen manufactures and large iron works in the immediate vicinity. Here the elections for the county are held.

Bridport (Dorset), a borough, on the Brit or Bride; has a good harbour, and a brisk trade; with manufactures of sail-cloth, shoes, thread, lines, and nets.

Brixham, on Torbay (Dev.), where William Prince of Orange landed, 1688.

Burgh-on-Sands, a village (Cum.) on the Eden, where Edward I. died, 1307, on his way to attack the Scots.

Burnham Thorpe, near Lynn Regis (Norf.), the birthplace of Lord Nelson, 1767.

Bushmills, on the small river Bush (Antrim), with an excellent distillery.

Calne, 5,315 (Wilts.), a neat town, has some flax and paper mills.

Carbery Hill, where Mary Queen of Scots was defeated by her nobles.

Carisbrooke Castle, built by the lord of the Isle of Wight, near Newport, soon after the Conquest; where Charles I. was imprisoned for 10 months, 1647.

Carron, in Stirling, is a good seat of the iron trade.

Carstairs, a town a few miles from Glasgow, with manufactures of chimney pots. Many sand quarries are worked here.

Castlebellingham (Louth), with a brewery.

Castleford (York), situated at the junction of the Aire and Calder, the seat of the Yorkshire potteries and glass bottle trade; is near the centre of the West York Coal District.

Chalgrove Field, 14 miles S.E. of Oxford city, where a battle was fought in the civil war, 1643, in which John Hampden was slain.

Cheddar, a town (Som.), where the celebrated "Cheddar cheese" is made.

Chelsea (Mid-sex.), on the Thames, with a fine hospital for invalided soldiers, has splendid gardens.

Chertsey (Berks), where Cæsar crossed the Thames.

Chiselhurst in Kent, the residence of Napoleon III.

Chippenham, 1,387 (Wilts), is a great seat of the cheese trade; stands on the Avon. It was taken by the Danes, 880, being then the residence of the kings of Wessex.

Chudleigh (Devon), nearly destroyed by fire in 1807, but is now an important place; is situated in an agricultural district, where much trade is carried on, and is famous for cider orchards.

Cinque Ports, consisted of 5 ports, "chartered in the time of Edward the Confessor," viz. : Sandwich, Dover, Hythe, Romney, and Hastings. They were formed into a separate jurisdiction by the Conqueror, under a warden. To these Winchelsea and Rye were added afterwards. These towns were bound to provide a certain number of vessels for the protection of the coast for 15 days.

Clontarf, a rising suburb of Dublin, where the Danes were defeated, 1015, by Brian Bóro mbe, king of Ireland.

Coatbridge, about 10 miles E. from Glasgow (Lan.), has great smelting furnaces and brick making.

Cooper's Hill, (Sur.), of poetical fame, where the new Indian Engineering College has been built.

Creetown, a small port (Kirkc.), has granite quarries of which the new Liverpool docks were constructed.

Crieff (Perth), with manufactures of cotton, woollen, and linen, and worsted stuffs, is in the midst of delightful scenery.

Cropredy Bridge (Oxf.): the scene of an indecisive battle, 1644.

Cromer, (Norf.), with the best lobsters in England, has a mineral well. It is a small seaport.

Culloden, a moor about three miles from Inverness, the scene of the final overthrow of the adherents of the Stuarts, 1746. It is now a railway station, though nothing but a small village.

Dangan Castle* (Meath), near Trim, where Wellington was born, 1769.

Daventry, 4,051 (Northam.), has manufactures of shoes and silk stockings—whips are made.

Dawlish, 4,000, a pretty watering-place on the S. coast of Devon; has a very genial climate.

Deddington (Oxford.), one of the four polling districts of the county, is an improving town.

Drumclog (Lanark.), a village on the borders of Ayr, where the Covenanters defeated Graham of Claverhouse, 1679.

Dulwich (Sur.), with mineral springs, and a richly-endowed college.

Dunbar, a town (Had.), the scene of two battles—one 1296, when the English defeated the Scots, and the other in 1650, when Cromwell defeated the Scots.

Duncannon Fort, on the S. of Wexford, commands Waterford harbour. Here James II. set sail after the battle of the Boyne, 1690.

Easingwold (York.), an ancient town in the N. Riding; has several medicinal springs.

Eastbourne (Sus.), a fashionable watering-place, rising in public estimation.

Edgecote, see Banbury.

Edgehill (War.) was the scene of the first battle in the civil war, 1642, in which, though indecisive, 5,000 men were slain.

Elderslie, a village two miles from Paisley, where Sir W. Wallace, the Scotch patriot, was born.

Elstow, near Bedford, the birth-place of John Bunyan, who wrote the best allegory in any language.

* The weight of evidence goes to prove he was born in Dublin.

Epworth, a village (Lincoln), the birth-place of John Wesley.

Evesham, a town (Wor.) where prince Edward (Edward I.) defeated and slew De Montfort, earl of Leicester, 1265.

Flley, a watering-place on the Yorkshire coast, now much frequented.

Fishguard, on the coast of Pembroke, where a French detachment landed, 1797, but they were soon made prisoners.

Flodden Field, a village (Northumberland), 13 miles S.W. of Berwick, where James IV. of Scotland was defeated and slain, 1513, by the English under the earl of Surrey.

Fochabers, a neat little town on the Spey (Nairn), is of some historical note.

Foilhammerum, a village on Valentia Island (Kerry), the terminus of the Atlantic cable.

Fort Augustus, a small village, no longer a fortress, standing near the middle of the Caledonian canal.

Fort William is a small town of about 1000 inhabitants, on Loch Eil, near the S. entrance to the Caledonian canal. It is no longer a fortress.

Fotheringay Castle (Northam.), where Mary Queen of Scots was imprisoned and beheaded, 1586 ; it no longer exists.

Glencoe, with Alpine scenery (Arg.), where the clan of MacDonald was atrociously massacred, 1692, owing to the inveterate hatred of the Master of Stair.

Gorey, a town (Wex.), with good trade in agricultural produce: here was a battle, 1798, in which the king's troops were defeated.

Gretna-Green, a village (Dumfries), a station on the Caledonian railway ; well known until lately for its irregular marriages, which were annulled by an Act of Parliament, 1856.

Hackney, a village, 2 miles N. of London, where Howard the philanthropist (who died at Kerson) was born, 1726.

Halesworth (Suff.), a town in the centre of Suffolk, is employed in agriculture, and in spinning and weaving yarn from hemp, which is grown to a considerable extent in the vicinity.

Halidon Hill, opposite Holy Island (Dur.), where Edward III. defeated the Scots, 1333, and placed Edward Baliol on the throne.

Halstead (Essex), on the Colne, 18 miles from Chelmsford, with manufactures of silks, satins, velvets, and straw plait.

Hedgeley Moor, in Northumberland, where the Lancastrians were defeated, 1464.

Heytesbury (Wilts.), is engaged in cloth making.

Heywood (Lan.), is chiefly engaged in the cotton manufacture.

Hexham (Northum.), with remains of a cathedral; a battle was fought here, 1464, in which the Yorkists were victorious.

Hitchin (Herts.), in a very pleasant valley, in an agricultural district, and in the neighbourhood of several fine old mansions; straw-plait manufactures exist here.

Homildon Hill, see Wooller.

Hounslow Heath, (Midsx.), near London, where tournaments were often held; and where James II. heard the cheers of his soldiery at the acquittal of the bishops, 1688.

Horsham, 6,747 (Sus.), so named from Horsa, the Saxon prince.

Hurst Castle, on the Solent, where Charles I. was imprisoned, 1648, has a good fowl market and excellent quarries.

Hyde (Ches.), 13,000, is seven miles from Manchester; owes its rise chiefly to the cotton manufacture, together with iron, coal, and print works, in which the inhabitants are actively employed.

Ilchester (Som.), the birth-place of Roger Bacon.

Ilkeston (Derby), a town 12 miles from Derby. Population is principally employed in the silk, lace, and hosiery, and in the iron and coal trades.

Inverlochy, on the Lochy (Irver.), near Fort William, where the Covenanters were defeated by Montrose, 1645.

Ironville (Derby) forms, with *Codnor* and *Park*, a rich and prosperous mining district.

Kew (Sur.) is noted for its botanical gardens.

Kilmallock (Lim.), where there are very extensive ruins. Here several skirmishes occurred in 1641-2, and here the Fenians attacked the police, 1865.

Killiecrankie, a pass about 2 miles long, of exquisite beauty (Perth), through the Grampians, where Graham of Claverhouse, the leader of the Highlanders, fell, 1689, fighting against the army of William III. The railway now runs through this pass.

Kilcolman, an old castle (Cork), where the poet Spencer resided.

Kilsyth (Stirling), where Montrose defeated the Covenanters, 1645.

Kingsbridge (Dev.), on an inlet of the English Channel, remarkable for the salubrity of its climate. It is in a rich agricultural district, with some trade in malt and leather. It produces a liquor called *white-ale*, not found elsewhere.

Kington (Here.) has manufactures of coarse woollens.

Kirkcaldy (Fif.), a royal burgh, with a considerable amount of shipping and other trade. The chief manufacture is that of checks, tickings, canvas; also spinning and weaving.

Kirriemuir, 4,000, a town (Forfar), where black linens are extensively made.

Largs, on the coast of Ayr, where Haco of Norway was defeated, 1263.

Landsdown, near Bath (Som.), where an indecisive battle was fought in 1643.

Langholm (Dumfries), a town on the Esk, has two woollen factories, looms for woollen, plaid, and other fabrics, some dye-houses, two branch banks, and some libraries.

Langside, near Glasgow (Ren.), where Mary Queen of Scots was defeated by Murray, 1568.

Leigh (Lan.), between Bolton and Liverpool, has manufactures of silk, cambrics, muslins, and fustians.

Lewisham, a nice village (Kent), the residence of retired officers.

Linton (Som.), a watering-place.

Lisbellaw (Fer.), with manufactures of woollens and tweeds.

Lisdoonvarna, a village in Clare, with excellent spas.

Llanberis, a small town and lake (Carn.), in the midst of delightful scenery near Snowdon, much frequented by tourists.

Llandudno, a bathing-place on Great Ormes Head (Carn.), lately much improved.

Lucan, on the Liffey (Dublin), is a small old town noted for its chalybeate springs.

Lutterworth (Leic.), the birth-place of Wycliffe, and the parish of which he afterwards became rector.

Lymington, 2,474 (Hants), where the timber of the New Forest is chiefly shipped.

Machynlleth, an ancient town (Montg.), where Owen Glendower held a parliament, 1402.

Malmesbury (Wilts), once had a mitred abbot.

Market-Harborough (Leices.), a town on the Welland, with manufactures of shoes, hose, etc.

Marston-Moor, 9 miles S. W. of York city, where Cromwell defeated the royalists under Prince Rupert, 1644.

Melrose, on the Tweed (Rox.), remarkable for the ruins of its ancient abbey.

Melton-Mowbray (Leic.), the centre of a great hunting country, and where much Stilton cheese is made ; also pork pies.

Middleton, 5 miles from Manchester ; has a grammar-school, and cotton and silk factories.

Mold, a town in Flint, was once the capital of the county.

Monk-Wearmouth (Dur.), on the Wear, the birth-place of the Venerable Bede.

Mortimer's Cross (Here.), near Leominster ; here was a battle in 1461, which fixed Edward IV. on the throne, and in commemoration of which a pedestal is erected on the spot.

Moreton-in-March (Glouces.), on the borders of the four counties of Gloucester, Worcester, Warwick, and Oxford, has linen manufactures and local trade.

Naseby, 12 miles N. of Northampton, where the forces of Charles I. were utterly overthrown, 1645, and his artillery and private papers taken by Cromwell.

Neville's Cross (Dur.), where David II., King of Scotland, was defeated by Queen Philippa, Queen of Edward III., and brought a prisoner to London, 1346.

Newark (Notts.), where King John died, and where Charles I. was given up by the Scots to the English army, 1646.

Newbridge—(i.) in Kildare, has a barrack, near which is the Curragh Camp; (ii.), a village of Wicklow, near which are copper and sulphur mines.

Newbury (in Berks), here two indecisive battles were fought, 1643-4.

Newcastle (county Down,) has mineral springs.

Newport (Shrop.), on the Strine, with numerous mines of iron and coal, possesses a covered general market and corn exchange, with public offices.

Newport (Mayo), a small sea-port on Clew bay.

Newtownbutler (Ferm.), where the adherents of James II. were signally defeated by the Enniskilleners, 1689.

Nore—(i.) a naval station, and admirable anchoring place, off Sheerness, where a mutiny broke out, 1797; (ii.) a river in the county Kilkenny, already described.

Northallerton, 5,000 (York), where the "Battle of the Standards" between England and Scotland was fought, 1138, and David of Scotland defeated.

Ormskirk (Lanc.), a rising town in the centre of a populous and rich district—where gingerbread is made.

Ossory, a diocese in Queen's county, Kilkenny, and Tipperary.

Otterburn (Northh.), where Hotspur defeated and slew Earl Douglas, 1388. This battle was immortalized in the famous ballad of "Chevy Chase."

Penrhyn, 3,679 (Cornw.), in the midst of orchards, which are so numerous as to resemble a forest; has trade in artificial manures.

Peters Fields (6,103), near Manchester, where the "Blanket Meeting" was held, 1817, every man bringing a blanket to encamp in the fields on the intended journey to London.

Pevensey Bay (Sus.), where William the Conqueror landed, 1066.

Philliphaugh, a village near Selkirk, where Montrose was defeated by the Covenanters, 1645.

Portaferry, a small town (Down), whence many of the leaders of the insurgents of 1798 escaped to France.

Pinkie (Edinb.) Here the Scots were defeated in 1547.

Pontefract, 5,372 (York), has extensive liquorice plantations. It is famed for its castle. Here Richard II. was murdered, 1400.

Portland (Dorset), a great convict depot, exports building and tomb stones. Off this town Admiral Blake defeated the Dutch, 1652.

Portsoy (Banff), a seaport, with a good stirring trade in corn, salt-fish, flax, and woollen stuffs.

Powick-Bridge (Oxf.), where the first cavalry skirmish occurred (a month before Edgehill), in the civil war, 1642.

Prestonpans (Had.), the English army was defeated, 1745, by the Pretender.

Pwllhell, 3,040, (Carn.), is a small port with active trade.

Redruth (8,000), a good market town in Cornwall.

Rhyl (Flint), at the extremity of the Vale of Clwyd, is the most celebrated watering place in North Wales.

Richmond (4,443), is a parliamentary and municipal borough in the North Riding of Yorkshire, for which it is a polling-place. It is connected with York by the North Eastern railway.

Ross (5,000), on a rock on E. bank of the Wye (Here.), has been made famous by Pope's "Man of Ross," John Kyrle, whose house is still here, and whose benevolence and public spirit the poet so justly admired.

Roundaway Down (in Wilts), where the Royalists were victorious, 1643.

Royston (Herts), has a building which was once the residence of James I.

Runnymede, an isle in the Thames (Berks), where the barons compelled King John to sign *Magna Charta*, 1215.

Rye House (Herts), near Ware, the scene of a plot, 1683.

Rye (Sus.), 3,864, one of the Cinque Ports (once a walled town), stands on a rock at the head of an extensive marsh; and, after having fallen into a state of great decay, is recovering its ancient prosperity. It was burnt by the French in the reign of Richard II.

St. Bees, near the headland of same name (Cum.), with a theological college largely attended.

Saintfield (in Down), where a skirmish took place between the United Irishmen and the king's troops in 1798.

Saltcoats, in Ayr, with large trade in salt and coal.

Sandringham (Norf.), the shooting-seat of the Prince of Wales.

Sandhurst (Berks), a royal military college for the line.

Sedgemoor (Som.), where the Duke of Monmouth was defeated, 1685, by the forces of James II.

Shensham (Worc.), on the Severn, the birth-place of Samuel Butler.

Shepton Mallet, in E. Somerset, where the famed "Cheddar" cheese is obtained.

Sherwood Forest (Notts.), the scene of Robin Hood's exploits.

Shorncliffe, a military camp in the suburbs of Hythe.

Shotts (Lanark), has extensive iron and coal trade, large furnaces, etc. The district around is well farmed.

Sittingbourne (Kent), ten miles from Rochester, on the London, Chatham, and Dover railway. Bricks and cements are largely manufactured.

Solebay, near Lowestoft (Suf.), where an indecisive but sanguinary action took place between the English fleet under the Duke of York, and the Dutch under Opdam, 1665.

Solway (Cum.), where the English defeated the Scots under James V., 1542.

Southwold Bay, off Southwold (Suf.), where the Duke of York defeated De Ruyter, 1672.

Southport (Lanc.), a fashionable bathing place, has of late years considerably risen in the estimation of health-seekers.

Stilton, a village (Hunt.), at which travellers got some cheese from Leicestershire to which they gave the name of "Stilton," though it was never made there.

Stratford (Es.), on the Lea, has flour mills, distilleries, chemical and print works; and its prosperity is increased by its connection with the Eastern Counties railway. The company has some important works close to the town.

Strathpeffer, near Dingwall, is now celebrated for its mineral waters.

Stratton in (Corn.), where the Royal forces were victorious, 1643.

Swanlinbar, in county Cavan, with mineral waters.

Teignmouth, 7,000 (Dev.), exports fine clay for the potteries, and is a watering-place much frequented.

Thame (Oxf.), a market town on the river of same name, is the place where John Hampden died from a wound he received at Chalgrove field, 1643.

Tilbury Fort (Essex), on the Thames, opposite Gravesend, where Queen Elizabeth reviewed the troops on the approach of the Spanish Armada, 1588.

Tippermuir (in Perth), where Montrose defeated the Covenanters, 1644.

Torbay (Dev.), a fine sheltered harbour, where the forces of William, Prince of Orange landed, 1688.

Towton (York.), where 40,000 Lancastrians were slain, 1461.

Tramore (Waterford), a watering-place, with a splendid strand.

Tring (Herts), has manufactures of silk and straw plait.

Twickenham (Midsx.), on the Thames, where Pope resided.

Vinegar Hill (Wex.), near Enniscorthy, where the Irish insurgents were utterly defeated by Lord Lake, 1798.

Wantage, 3,000 (Berks), an ancient town; was the birth-place of Alfred the Great.

Warminster (Wilts), situated at the western side of Salisbury plain; corn trade is carried on; also matting and hair-cloth weaving.

Weighton, a town at the foot of the Wolds (York.), has one of the largest sheep fairs.

Westbury (Wilts.), has gloves, cloth, and iron works.

Wetherby, on the Wharfe (York.), has a magnificent cattle and corn market, great trade in manures, and agricultural implements.

West Calder (Edinb.) is an important rising town, with factories which produce much paraffin oil.

Willenhall (Staff.), where locks, keys, and other iron-works are executed and sent to all parts of England.

Winchelsea (Sus.), a cinque port, is a town of importance.

Wirksworth, in the midst of the mining district of Derbyshire, has lead-mines, hat, and hose making.

Woeller (North.), on the Till, in the vicinity of which was fought the battle of Homildon Hill, 1402, Flodden Field, 1513, and Hedgeley Moor, 1464.

Workington, in Cumberland, with great exports of coal to Ireland and a good salmon fishery. Mary Queen of Scots landed here after the battle of Landside.

Worsted, a village in Norfolk, gives its name to well known cloths, made of wool first made here.

Worthing, on the coast of Sussex, is a watering place.

Wroughton, near Bristol, the birth-place of John Locke.

Wycombe (Bucks.). *Chipping* or *High Wycombe* is a borough and market town, where the chair and paper-making businesses are carried on rather extensively.

Yeovil (Som.), a town on the Yeo, where gloves, leather-dressing, etc., are carried on. There are also some woollen factories. Here Captain Speke, the discoverer of the source of the Nile, accidentally shot himself.

BRITISH COLONIES AND FOREIGN POSSESSIONS.

EUROPE.

Colonies.	Mode of Acquisition	Area. Sqr. mls.	Population.
Gibraltar,	Capture, 1704	1 $\frac{3}{4}$	24,750
Heligoland,	Cession, 1814	5 $\frac{1}{4}$	2,172
Maltese Islands,	Capture, 1800	115	145,802

ASIA.

Ceylon,	Capitulation, 1796	24,700	2,076,467
Bengal,		468,019	64,108,369
Bombay,		131,544	11,790,042
Madras,	Conquest, at various times, 1757, 1835, &c.	132,090	22,437,297
North-west Provinces,		105,759	33,655,193
Hong Kong,	Treaty, 1843	29	121,917
Labuan,	Cession, 1846	50	5,000
Aden,	Purchase, 1839	19	46,000

AFRICA.

Cape Colony,	Capitulation, 1806	200,621	267,096
Gambia,	Settlement, 1631	—	6,939
Gold Coast,	„ 1661	6,000	385,000
Natal,	„ 1838	18,000	160,170
St. Helena,	„ 1673	47	5,490
Sierra Leone,	„ 1787	300	41,624
Mauritius,	Capitulation, 1810	708	320,823

NORTH AMERICA.

Bermudas,	Settlement, 1609	20	11,982
British Columbia,	„ 1858	200,000	15,000
Canada, Lower,	Capit. and Cession, 1759	209,990	1,190,000
Canada, Upper,	„ „ 1763	32,492	1,620,222
New Brunswick,		25,900	285,800
Newfoundland,		35,850	146,638
Nova Scotia and Cape Breton,	Settlement, at various periods.	15,620	387,800
Prince Edward's Island,		2,150	93,496

SOUTH AMERICA.

Colonies.	Mode of Acquisition.		Area, Sqr. mls.	Population.
Guiana, (British,)	Capitulation,	1803	76,000	178,000
Falkland Islands,	Cession,	1837	13,000	639
WEST INDIES,				
Antigua,	Settlement,	1632	108	35,408
Bahamas,	"	1629	5,000	35,000
Barbadoes,	"	1605	166	162,272
Dominica,	Cession,	1763	288	25,065
Grenada,	"	1763	133	35,517
Honduras,	"	1670	17,000	25,645
Jamaica,	Capitulation,	1655	6,400	441,433
Montserrat,	Settlement,	1632	54	7,650
Nevis,	"	1628	20	12,000
St. Kitts,	"	1623-1650	68	24,308
St. Lucia,	Capitulation,	1803	300	29,262
St. Vincents,	Cession,	1763	130	30,000
Tobago,	"	1763	99	16,363
Tortola,	Settlement,	1665	94	6,000
Trinidad,	Capitulation,	1797	2,000	95,000

AUSTRALASIA.

New South Wales,	Settlement,	1787	300,000	502,000
South Australia,	"	1836	300,000	186,000
West Australia,	"	1829	80,000	20,000
Victoria,	"	1836	86,831	729,000
Queensland,	"	1859	560,000	115,000
Tasmania,	"	1803	27,000	102,000
New Zealand,	"	1839	95,000	256,167

In addition to the above, the **Auckland Islands**, about 400 miles S. of New Zealand, are important as a station of the whale fishery in the southern hemisphere.

Norfolk Island, lying a little E. of Australia, was once a penal settlement, and has at present a population of about 200 inhabitants, consisting of the descendants of the mutineers of the "Bounty," removed here, at their own request, in 1856.

The **British Possessions** will be described under the countries to which they geographically belong.

FRANCE.*

France is separated from England by the English Channel and Straits of Dover. It has Belgium on the N. E.; Germany, Switzerland, and Italy, on the E.; the Mediterranean and Spain on the S.; and the Bay of Biscay, with a portion of the Atlantic, on the W. It is considered the most compact country of Europe; and has an area of 200,000 square miles, and a population of 37 millions. Its length from S. E. to N. W., is 620 miles, and its breadth 640 miles.

France lies between the parallels of $42^{\circ} 20'$ and $51^{\circ} 5'$; and between the meridians of $8^{\circ} 15'$ E., and $4^{\circ} 54'$ west longitude.

Until the revolution of 1789, this country was divided into 34 departments, inclusive of the island of Corsica. But at this date, it was divided into 86 departments, to which, after the successful war against Austria, in 1859, Savoy and Nice were added from Italy, making, in all, 89 departments. However, after the defeat of France by Germany, in 1870, the provinces of Alsace and Lorraine (nearly) were ceded to the latter, leaving only 83 departments to France as at present constituted.

PROVINCES AND DEPARTMENTS.

Department.	Area, Sqr. mls.	Population.	Capital.
ILE DE FRANCE.			
1 Seine . . .	185	1,953,660	Paris on the Seine.
2 Seine-et-Oise .	2 141	513,073	Versailles on a plateau.
3 Seine-et-Marne	2,154	352,312	Melun on the Seine.
4 Aisne . . .	2,322	564,597	Laon.
5 Oise . . .	2,218	401,417	Beauvais on the Therain.

* In this article I am much indebted to E. Cortambert.

Department.	Area, Sqr. mls.	Population.	Capital.
6 Somme* .	2,343	572,646	Amiens on the Somme.
7 Pas-de-Calais†	2,505	724,338	Arras.
8 Nord‡ .	2,170	1,303,380	Lille on the Deule.
CHAMPAGNE.			
9 Ardennes .	1,955	329,111	Mezieres on the Meuse.
10 Marne .	3,116	385,498	Chalons on the Marne.
11 Aube .	2,351	262,785	Troyes on the Seine.
12 Marne (Haute)	2,385	254,413	Chaumont on the Marne.
NORMANDY.			
13 Seine-Inferi- eure .	2,298	769,450	Rouen on the Seine.
14 Eure .	2,248	404,665	Evreux on the Iton.
15 Calvados .	2,145	478,397	Caen on the Orne.
16 La Manche .	2,263	595,202	Saint Loo on the Vire.
17 Orne .	2,329	430,127	Alençon on the Sarthe.
BRITTANY.			
18 Finisterre .	2,548	606,552	Quimper on the Odet.
19 Morbihan .	2,667	473,932	Vannes on G. of Morbihan.
20 Cotes-du-Nord .	1,967	621,573	St. Brieuc.
21 Ile-et-Vilaine .	2,554	580,898	Rennes.
22 Loire-Inferi- eure .	2,595	555,996	Nantes on the Loire.
POITOU.			
23 Vendée .	2,595	389,683	Napoleon-Vendée.
24 Sèvres .	2,315	327,846	Niort on the Sèvres.
25 Vienne .	2,574	322,585	Poitiers on the Clain.
ANJOU.			
26 Maine-et-Loire	2,755	524,387	Angers on the Marne.
MAINE.			
27 Mayenne .	1,966	373,841	Lavat on the Mayenne.
28 Sarthe .	2,371	467,193	Le Mans on the Sarthe.
ANGOUMOIS.			
29 Charante .	2,300	378,721	Angoulême on the Char- ente.
30 Charante-Infe- rieure .	2,500	467,193	La Rochelle, on a bay.
TOURAIN.			
31 Indre-et-Loire .	2,332	318,442	Tours on the Loire.

* Picardy.

† Artois.

‡ Flanders.

Department.	Area, Sq. mls.	Population.	Capital.
ORLEANAIS.			
32 Loire-et-Cher	2,389	262,043	Blois on the Loire.
33 Eure-et-Loire .	2,117	291,074	Chartres on the Eure.
34 Loiret .	2,551	345,115	Orleans on the Loire.
35 Nièvre* :	2,595	326,086	Nevers on the Loire.
36 Allier † .	2,762	352,241	Moulins on the Allier.
37 Creuse ‡ .	2,118	278,889	Guèret.
BERRY.			
38 Cher .	2,747	314,982	Bourges in centre of France.
39 Indre .	2,624	273,479	Châteauroux on the Indre.
LIMOUSIN.			
40 Vienne (Haute)	2,118	319,787	Limoges on the Vienne.
41 Correze .	2,218	314,985	Tulle on the Corrèze.
AUVERGNE.			
42 Cantal .	2,245	247,665	Aurillac.
43 Puy-de-Dome .	3,039	576,409	Clermont.
LYONNAIS.			
44 Loire .	1,805	517,603	Montbrison on the Vezoz.
45 Rhone .	1,066	662,493	Lyons on the Rhone.
BURGUNDY.			
46 Ain .	2,258	369,767	Bourg-en-Bresse.
47 Saone et Loire	3,270	582,137	Mâcon on the Saone.
48 Cote-d'Or .	3,354	384,140	Dijon on the Ouche.
49 Yonne .	2,781	368,901	Auxerre on the Yonne.
FRANCHE COMTE.			
50 Saone (Haute)	2,028	317,183	Vesoul.
51 Jura .	1,894	298,053	Lons.
52 Doubs .	2,028	286,888	Besancon on the Doubs.
DAUPHINE.			
53 Isere .	3,163	577,748	Grenoble on the Isere.
54 Drome .	2,508	326,684	Valence on the Rhone.
55 Alpes (Hautes)	2,114	125,100	Gap.
LANGUEDOC.			
56 Ardeche .	2,110	388,529	Privas
57 Loire (Haute) .	1,900	305,521	Le Puy near the Loire.
58 Lozere .	1,965	137,367	Meude on the Lot.
59 Gard .	2,256	422,107	Nimes on the Gard.
60 Herault .	2,382	630,935	Montpellier on the Lez.

* Nivernais.

† Bourbonnais.

‡ Marche.

Department.	Area, Sq. mls.	Population.	Capital.
61 Tarn . . .	2,185	353,633	Alby on the Tarn.
62 Garonne (Haute)	2,529	484,081	Toulouse on the Garonne.
63 Aude . . .	2,340	283,606	Carcassonne on the Aude.
—			
GUIENNE.			
64 Dordogne . . .	3,492	504,561	Perigueux on the Ile.
65 Tarn-et-Gar- onne . . .	1,405	234,782	Montauban on the Tarn.
66 Lot-et-Garonne	2,027	340,041	Agen on the Garonne.
67 Aveyron . . .	3,340	393,890	Rodez on the Aveyron.
68 Lot . . .	2,004	293,733	Cahors on the Lot.
69 Gironde . . .	3,714	640,757	Bordeaux on the Garonne.
—			
GASCONY.			
70 Les Landes . . .	3,490	309,832	Mont-de-Maison on the Midouze.
71 Gers . . .	2,390	304,497	Auch on the Gers.
72 Pyrenees (Hautes) . . .	1,730	245,856	Tarbes on the Adour.
—			
73 Pyrenees (Basses)* . . .	2,862	436,442	Pau on the Gave.
—			
FOIX.			
74 Ariege . . .	1,738	251,318	Foix on the Ariège.
—			
ROUSSILLON.			
75 Pyrenees (Orientales) . . .	1,571	183,056	Perpignan on the Tet.
—			
76 Vaucluse† . . .	1,328	268,994	Avignon on the Rhone.
—			
PROVENCE.			
77 Rhone (Bou- ches du) . . .	1,956	473,365	Marseilles on Gulf of Lyons
78 Alpes (Basses)	2,600	149,670	Digne.
79 Var . . .	2,773	305,398	Toulon on Mediterranean.
—			
SAVOY.			
80 Savoy . . .	2,479	318,000	Chambery.
81 Do. (Haute) . . .	1,743	286,000	Chamouni on the foot of Mt. Blanc.
82 Alps Maritimes	1,621	192,000	Nice on the Mediterranean.
83 Corsica . . .	3,331	240,183	Ajaccio on W. coast.

* Bearn and Navarre.

† Avignon, Venaissin, and Orleans.

Ile-de-France at first was so named on 'account of its being almost an isle, surrounded by the Seine, Marne, Aisne, Oise, etc. It is a beautiful district, the original Royal Domain; and was the nucleus around which the remainder of the country became settled. In early ages it was the chief possession of the Crown.

1. **Seine** occupies the very centre of the province, and is studded with delightful villas, gardens, and mansions, including the city of Paris and most of its beautiful suburbs.

Paris (1,800,000), standing on the Seine, has long maintained the first place among European capitals as the centre of fashion. Its public monuments of every variety exceed those of every other city, ancient or modern. The city stands on both banks of the Seine; and on two islands in the river, being beautifully laid out with magnificent squares, parks, gardens, public fountains, and monuments. It is elegantly built, consisting of straight and regular streets and terraces, all admirably paved and drained. Paris is particularly noted as a seat of the fine arts, painting, sculpture, and the chief pioneer in producing articles of luxury. Its public buildings are most superb.

Among the treaties of Paris are that of 1763, in which Great Britain was interested; that of 1814, which led to the abdication of Napoleon I.; that of 1856, which ended the Crimean war. Its revolutions of 1789, 1830, 1848, and 1870, are equally important; and its siege by the Germans in 1870 may only be mentioned.

St. Denis (20,000), lying N. of Paris, was, until the Revolution, the burying place of the French kings. **Vincennes** (10,000), to the E., is now used as a military arsenal and a state prison, though once a royal residence. Here the Duc d'Enghien was shot, 1804.

2. **Seine-et-Oise** surrounds the former department on all sides, and is well cultivated and productive in grains, vegetables, and fruits.

Versailles (40,000), with the magnificent palace on which Louis XIV. lavished the resources of the country, stands on a plateau, on the Oise; has an ancient castle and commerce in grain; and is connected with Paris by a railway on each side of the Seine. A treaty was concluded here in 1783 which secured the independence of the United States. **Saint Cloud** (*san-cloo*) has a beautiful castle, which was burnt, 1871, and a park. **Sevres** (5,000) is famous for porcelain.

3. **Seine-et-Marne** is in general a fertile and an agreeable province, producing, in addition to the articles mentioned in the previous department, wines and raisins.

Melun (10,000) stands on the railway between Paris and Lyons, and is the capital of the department.

Fontainebleau (10,000), with an extensive forest, is remarkable for two historical incidents—the signing of the abdication of Napoleon, 1814, and the revocation of the edict of Nantes, 1685. **Meaux** (10,000) is called the corn mart of Paris, and has a cathedral.

4. **Aisne** touches Belgium in a point in the N. E., and is watered by three rivers, Oise, Aisne, and Marne, united by several canals. The surface is generally diversified.

Laon (10,000) is a strong fortress at which some German troops were blown up after taking it, 1870. A battle was fought here in 1814 between Napoleon and the Allies.

St. Quentin (30,000) is a flourishing seat of the cotton manufacture. Here, in 1557, the Spaniards defeated the French. **Soissons** (10,000), an old town, was the capital of Clovis. Taken by the Germans, 1870.

5. **Oise** is an agreeable province, much covered with plantations, and producing luxuriant crops of wheat and other grain.

Beauvais (10,000) has important cloth manufactures, and cotton and tapestry making, and a cathedral.

Clermont has an ancient castle, which is now used as a prison.

Compiègne (10,000), with a castle and a forest, has been recently used as an imperial hunting seat. **Noyon** (6,000) was the birthplace of Calvin.

6. **Somme**, so named from the river which traverses it from E. to W., corresponds very nearly to ancient Picardy. Agriculture is carried on here on an improved system; and its manufactures of linen, sugar, and cider, are important.

Amiens (55,000), with woollen manufactures, is a great railway centre; it has a beautiful cathedral; has manufactures of velvet

and Kerseymeres ; and was the birth-place of Peter the Hermit, by whom the first Crusade was preached. In 1802, a treaty was concluded here between England and France, when the former for the first time acknowledged the French republic. It was taken by the Germans, 1870.

Abbeyville (20,020) is a nice town, on the Somme, with some cloth-making. Ham is a strong fortress, in which Napoleon III. was imprisoned several years, 1840-6. St. Valery is a small port at the mouth of the Somme, whence the Conqueror set sail for England, 1066. Cressy, a village, was the scene of the victory of Edward III. over the French, 1346.

7. Pas-de-Calais, lying on the straits of Dover, is a flat province of considerable fertility.

Arras (25,000), the capital, a strong fortress and a well-built town, stands on the Scarpe, and has tapestry manufactures.

Calais (60,000) the chief port for England, a good town, well fortified, and surrounded by a moat. Its commerce is very considerable. Calais was taken by Edward III., after a siege, in 1347. It was retaken in 1558, by the Duke of Guise. **Boulogne** (35,000) is a good watering-place on the English channel, the residence of many Englishmen. Here Napoleon I. assembled a large force (1804), which he intended to land on the coast of England. **Agincourt** was the scene of a victory by Henry V., in 1415. At **Guinegate**, the "Battle of the Spurs" was fought, 1513. **St. Omer** (20,000) is the seat of a college.

8. Nord, or French Flanders, was annexed to France in 1668. It is rich, fertile, and thickly peopled ; produces flax, wheat, sugar, and tobacco.

Lille (130,000) is a strong fortress, on the Deule, and a chief railway centre, with linen and cloth manufactures. This town sustained several sieges, the most important of which were in 1708 (when taken by Marlborough) and in 1792.

Cambrai (20,000), a strong town on the Scheldt, has cloth manufactures, and gave rise to the term cambric. It had the famous Fenelon for its archbishop. **Dunkirk** (30,000) is the most N. port of France, and has an active trade. It was taken by the French General Turenne from the Spaniards, and given to the English, 1558. Charles II. sold it in 1662 to the French. **Valenciennes** (25,000) stands on the Scheldt, and on the railway from Paris to Brussels. Its manu-

factures of lace are very extensive. **Donay** (20,000) had a college, once of considerable celebrity. **Malplaquet** was the scene of a victory of **Marlborough** and **Eugene** over the French under **Villars**, 1709.

9. **Ardennes** is rather mountainous and woody, and has two nice valleys, that of the *Meuse* and that of the *Aine*. It produces iron and marble, and has an active manufacturing industry. In its forests the wild boar is still hunted.

Mézières (5,000) is a nice town, well fortified, on the *Meuse*, which often retarded the armies of the foes of France.

Sedan (15,000), also on the *Meuse*, has long been noted for its cloth manufactures. It was the scene of the disastrous overthrow of the French under **Napoleon III.** (1870), when he, with 90,000 men, became prisoners of the victorious Germans. **Rocroi** is a strong place, near which **Condé** defeated the Spaniards, 1643. **Rethel** (7,000) was the site of a battle, 1650. **Bazilles** was the scene of a sanguinary engagement between the French and Germans, 1870, when the town was burnt. **Charleville** has an arms factory.

10. **Marne**, in the heart of **Champagne**, is a very fertile department, except in the S., where some sterile plains exist. It produces wines of world-wide celebrity.

Chalons (17,600), on the *Marne*, stands on the railway from **Paris** to **Strasbourg**, and is the seat of a great camp of the French army. It has wine trade, and woollen factories.

Rheims (55,000) has a magnificent cathedral in which the French kings were wont to be crowned, and is one of the principal seats of the wine trade. **Valmy** was the scene of a victory of the French over the Prussians in 1792. **Sezanne** has some tanneries, and was taken by the English in 1423, and by the Calvinists in 1566.

11. **Aube** lies further south on the *Aube* and the *Seine*, and has considerable wine trade, though not a fertile district. Bees are carefully tended in this department.

Troyes (35,000), stands on the *Seine*, and has much trade in millinery and paper. It has a magnificent cathedral. It was here the

treaty was made between Henry V. of England and Charles VI. of France, declaring the former heir to the French throne, 1420.

Nogent, Brienne, Clairvaux, and Mery (where the Seine becomes navigable), are in this department.

12. **Marne-Haute** has in the S. some hills and elevated districts, in which the rivers Marne, Meuse, and Aube have their sources. Iron and timber form its staple productions.

Chaumont is a nice town on the Marne, with glove-making. Here the allies made a treaty (1814), declaring they would not lay down arms until Napoleon should be dethroned.

Langres (11,000) is a strong town, with extensive manufactures of cutlery. St. Dizier, where the navigation of the Marne begins, was the scene of two battles in 1814. Vassy is remarkable for the massacre of the Huguenots in 1562.

13. **Seine-Inferieure**, or Lower Seine, is perhaps the most beautiful, most industrious, and most commercial department of France. The *Seine* winds through it, and forms a bore at each tide.

Rouen (100,000), nicely built, on the Seine, 70 miles from the sea, has a splendid cathedral and fine public buildings. Besides its extensive commerce, its cotton, leather, and paper factories are important. Here Joan of Arc was burnt as a witch, 1431. The Conqueror died here, 1087. In 1870 it was taken and held for several months by the Prussians.

Havre (75,000), one of the four great French ports, may be considered the port of Paris. It has excellent docks, and extensive commercial intercourse with all countries in the world. It has good tobacco, oil, and rope factories. It was bombarded by the English 1759, 1794, and 1795. Dieppe (20,000) is a port on the coast, with active traffic both by river and rail, and a packet to Brighton. Harfleur (4,000) stands at the mouth of the Seine. Elbeuf (19,000), on the Seine, has cloth manufactures. Forges has mineral springs.

14. **Eure** is also traversed by the Seine, and has a flourishing agricultural and manufacturing trade.

Evreux (12,000) has a beautiful cathedral. **Louviers** (10,000) has cloth manufactures. **Verneuil** was the scene of a victory of the English, under Bedford, 1424. This town has a great onion fair.

15. **Calvados** contains good pastures, and is rich in poultry, potatoes, wheat, and cider.

Caen (45,000), an industrious town on the Orne, is well built, and has considerable trade. It was plundered by the English, 1346.

Honfleur stands on the Seine, nearly opposite Havre. **Formigny**, where the English were defeated by Henry VII. of France in 1450. **Falaise** was the birthplace of the Conqueror ; and **Bayeux** has manufactures.

16. **La Manche** is also rich in pastures, and contains the prominent point, Cape *La Hogue*.

St. Lo (8,000), the capital, has a good cathedral, and some trade.

Cherbourg (30,000), one of the four naval arsenals, was greatly strengthened by Napoleon III. **Granville** (13,000) and **Avranches** (8,000) stand on the west of the peninsula. **Barfleur**, now much decayed, was the place whence William, son of Henry I., set sail, and was lost in the "white ship." **La Hogue**, a little further S., was the scene of a victory over the French by Admiral Russell, 1692.

17. **Orne** is watered by a river of the same name, and produces much fruit and cider.

Alencon (16,000), the capital, stands on the Sarthe, and has active trade in agricultural produce, linen, and lace.

Tenchebray is a small village where Henry I. defeated his brother Robert, 1106, whom he kept in prison 28 years.

18. **Finisterre** comprehends the most western part of Brittany, where the descendants of the ancient Britons still preserve their ancient language and customs, but are distinguished for their indolence and violence of passion, though possessing much sound sense. The shores are marked by many small headlands, and numbers of small creeks, but the interior is hilly and mountainous. The isle

of Ushant, noted for the battles of 1778 and 1794, belongs to this department.

Quimper (12,000) is the principal head-quarters of the pilchard fishery in France. It has linen and porcelain factories.

Brest (56,000) is not only one of the great commercial ports, with extensive trade with the W. Indies and other countries, but one of the four great French arsenals. It has splendid quays and docks, and very active shipping. **Morlaix** (13,000), on the English Channel, is a safe port, with a commercial college.

19. **Morbihan*** produces some good cheese, and has active fishing around the coast.

Vannes (14,000) has active trade in fish and grain.

L'Orient (21,000) is the seat of a famous engineering school, and is an active commercial depot, one of the chief seats of the navy. **Auray** is a small town where a battle was fought between the Counts of Blois and de Montfort, 1364. **Quiberon**, near the bay of same name, in which the British gained a victory over the French fleet in 1759.

20. **Cotes-du-Nord**, occupying the North coasts of Brittany, is an industrious department, particularly in agricultural pursuits.

St. Brienc (15,000) has many paper mills. **Dinan** has active trade.

21. **Ille-et-Vilaine** also touches the British Channel. Though the soil is not generally fertile, excellent pastures exist here, and good dairies abound.

Rennes (30,000) stands at the confluence of the Ille and the Vilaine, and has an active and increasing trade in butter and honey. **St. Malo** (10,000) is an active port, and the residence of many English. **St. Servan** (12,000) has some trade, and stands a few miles distant.

22. **Loire-Inferieure** is traversed by the Loire from West to East, and contains some fertile districts, with a Lake in the South named *Grand-Lieu*.

* This name in Celtic means "Little Sea."

Nantes (110,000) is a great commercial city with **St. Nazaire** as its outward port. The town is well built, and ranks fifth in size of all French towns. The "Edict of Nantes" was granted, 1598, by Henry IV. in favour of the Huguenots; and was revoked by Louis XIV. in 1685, when some thousands of French exiles came to the British Isles. From this port the young Pretender sailed in disguise in 1745.

23. **Vendée** is mountainous and much covered with plantations on the S., but marshy in the S. W. The rest of the surface is level. Its inhabitants are of simple manners and fond of their old customs.

Napoleon-Vendee (6,000) is a pretty town, much improved by Napoleon I., but has never prospered.

24. **Sevres** lies further S., is mountainous on the N. but flat on the S.

Niort (2,000) has manufactures of cloth and gloves, and stands in a wine country.

Chatillon is remarkable for a victory of the Vendéans over the republicans, 1793.

25. **Vienne** has splendid pastures, good wines, and extensive forests.

Poitiers (23,100), on the railway from Tours to Bordeaux, is an ancient town, with a good cathedral and extensive trade in grain and wool. Here the Black Prince defeated King John of France, 1356.

Vouille, near the above, is the place where Clovis defeated the Visi-Goths in 507. **Châtellerault**, a cutlery town on the Vienne, gives the title of duke to a Scotch family, Hamilton.

26. **Maine-et-Loire** is the ancient *Anjou*. It is fertile, and produces much grain, and renowned wine.

Angers (50,000) stands on the railway from Tours to Nantes, and has an active wine trade. It has an old castle.

Saumur (10,400), on the Loire, is one of the cavalry schools. It was taken by the Vendéans in 1793, but retaken in 1794. **Beaupreau** is noted for large cattle fairs.

27. Mayenne has an undulating surface, and produces much wheat, timber, and fruit.

Laval (20,000) has considerable local trade and cotton factories.

Mayenne (10,000) and **Craon** have but little trade or industry.

28. Sarthe is covered with many plantations, and has a rather flat surface.

Le Mans (35,000) stands on the Sarthe, and has trade in agricultural produce and fowls. It was taken by the Germans, 1870.

La Fleche (1,000) has a military school founded by Napoleon I.

29. Charante is covered with hills and valleys, and is a good wine country. Its brandy is much esteemed.

Angoulême (20,000), on the railway from Tours to Bordeaux, has extensive paper and woollen factories. Here the Black Prince resided after the battle of Poitiers. It has a public library of 65,000 volumes.

Cognac (5,000), on the Charante, is the seat of a great brandy trade. It is the birth-place of Francis I. **Jarnac** is a small town where the Calvinists were defeated, 1569.

30. Charante-Inferieure has a coast indented with many bays, and produces wines and brandies. Three isles belong to this department:—*Re*, which produces wine and salt; *Oleron*, of great fertility, where Richard I. formed a code of maritime laws on his return from the Crusades; and *Aix*, opposite the mouth of the river, forming a safe roadstead.

La Rochelle (16,000), a strongly-fortified town, with sugar refineries, trade in wine and brandy, was the stronghold of the Huguenots, and sustained a siege in 1628, and when taken, after fourteen months, only one-fifth of the inhabitants survived.

Rochefort (25,000), on the Charante, is one of the four naval arsenals. It is a nicely-built town; has a cannon foundry, some shipbuilding, and local trade. Here Napoleon I., in 1815, gave himself up, and became a prisoner of Captain Maitland.

31. Indre-et-Loire is a beautiful country which produces much wine and fruit.

Tours (40,000), on the Loire, is a great railway centre, with a magnificent cathedral, and manufactures of cloth and silk. Here Charles Martel defeated the Saracens, 732.

Chinon, on the Vienne, has ruins of an old castle, and gave its name to a modern mode in head-dress.

32. Loir-et-Cher, so named from the two rivers by which it is traversed, is a very fertile country in the N., but sterile in the S.

Blois (18,000), on the railway from Orleans to Tours, has remains of an ancient castle in which dwelt many of the French kings. It has extensive trade in corn, brandy, and fruit.

Vendome has some trade, and Freteval was the scene of an important victory of Richard I. in 1194.

33. Eure-et-Loir is a rich country, celebrated for the abundance of its grain crops.

Chartres (16,000) has trade in agricultural produce, and a cathedral. It has a great corn market.

Dreux (6,000) was the scene of an engagement in the religious wars, 1562, and again in 1870, between the Germans under the Duke of Mecklenburgh, and the French under Kératry, in favour of the former.

Bretigny is remarkable for a treaty in 1360, when Edward III. renounced all claims to the French crown. **Chateaudun** has manufactures of blankets.

34. Loiret, so named from the river which runs through it, is rich in grain, wine, and timber.

Orleans* (50,000) is a great railway centre on the Loire. It has a splendid cathedral. Here the river is crossed by a fine bridge. This city has very considerable industry, including sugar refineries, cloth-making, trade in wine, and vinegar, etc. The country around is beautifully wooded.

Coulmiers, a few miles distant, was the scene of a defeat of the Germans by the French, 9th November, 1870, who entered Orleans next day.

* This city was besieged by Attila in 450; and by the English in 1428, who were repulsed on the appearance of Joan of Arc before its walls, 29th April, 1429. Near it three severe battles were fought in the late Franco-German war, 1870.

Gien (5,090) is also on the Loire, crossed here by a handsome bridge.

Montargis (8,000) has tan yards, paper mills, and trade in corn.

Patay (1,200), where Joan of Arc so inspired the French that the English were defeated, and Talbot made prisoner, 1429.

35. Nièvre is mountainous on the E. It has rich iron mines, and is well wooded (one-third of the surface being forests), and watered by the Loire and other rivers.

Nevers (18,000) has iron foundries, and trade in porcelain, wines, and steel; but it is irregularly built. Cables and anchors are here made in great numbers.

Cone, on the Loire, is noted for cutlery, and anchors for the navy.

36. Allier is traversed from S. to N. by the river of same name, and is mountainous on the W., but it has some very fertile valleys. Oak is supplied from its forests, and excellent fish from its rivers.

Moulins (18,000) was the birthplace of Marshal Villars, and was the residence of Lord Clarendon when he wrote his history of the Rebellion. It has trade in silks, wines, corn, and timber.

Vichy, on the Allier, has much-esteemed mineral waters. The town is frequented by the best society from May to October.

37. Creuse is very mountainous, and has no particular industry, save farming.

Gueret (25,000), on a hill, has trade in cattle; and **Evauz** (3,000) has mineral springs.

38. Cher has beautiful pastures and rich iron mines, but is unproductive in the north, where there are ranges of low hills. Iron and coal are found.

Bourges (25,000), an ancient town, centrally situated, has a splendid cathedral. It has cloth and linen manufactures, and iron trade.

Sancerre (4,000) has splendid wines, and trade in marble, found in the neighbourhood.

39. Indre has very many marshes, but extensive pastures, on which are grazed numbers of sheep and oxen.

Chateauroux (10,600) has trade in grain, a good cattle market, and manufactures of military weapons. A good iron mine is near the town.

40. Vienne-Haute is rich in minerals, and has good pastures, on which many horses are reared.

Limoges (40,000) has porcelain, cotton, paper, and woollen manufactures, a cathedral, and a university.

41. Correze is a mountainous and picturesque district, but eminently agricultural.

Tulle (12,000) has manufactures of fire-arms, and trade in iron and copper. Here a kind of silk stuff was invented, called *tulle*, which is no longer made here.

42. Cantal contains some of the Auvergne mountains, and is a poor country, whose inhabitants are much engaged in tending their flocks of cattle and sheep. Chestnuts are much used as food.

Aurillac (11,000) is a town with some agricultural trade. It has an ancient monastery.

43. Puy-de-Dome is from its natural curiosities a very interesting district, with grottos, basaltic columns, and picturesque mountains. It is rich in cereals. Here are some of the most elevated peaks of the Auvergne mountains.

Clermont (35,000) has manufactures of woollen stuffs, and stands in the heart of the extinct volcano region. Here the first Crusade was proclaimed by Peter the Hermit, 1095.

Thiers (15,000) has much cutlery; and **Dore** has mineral waters.

Riom (12,000), with a college, is a well-built town.

44. Loire is touched by the Rhone on the S. W., and traversed by the Loire. It contains rich coal mines, excellent pastures, and extensive plantations of pine.

Montbrison (7,000) has a normal school and a library.

St. Etienne (90,000) is one of the most industrious towns of France—a great iron and coal seat, including cutlery, fire-arms, etc.

Roanne (17,000) stands on the Rhone, is well-built, and has calico, muslin, linen, glue, and cotton manufactures.

45. Rhone is, next to the *Seine*, the smallest French province; it is, on the W., hilly; and produces much wine.

Lyons (300,000) is the second town in France for population, and the first for manufactures. It has some good public buildings, and has produced many eminent men. It ranks first of all European towns for silk manufactures. The Rhone is here crossed by seven, and the Saone by twelve bridges. The city has a beautiful situation, and is of recent creation. It suffered much from the Revolutionists in 1793, the inundations of 1840 and 1856, and the riots of its operatives in 1831 and 1834. It has many fine squares and streets, and is strongly fortified. Besides silk, it has cotton, woollen, jewellery, silver and gold lace factories; and ranks next to Paris in printing and book-selling.

Tarare (10,000), and **Ville-franche** (8,000), have also important manufactures.

46. Ain is covered on the E. by the Jura range, and on the W. are fertile plains. Agriculture is the chief occupation of the inhabitants.

Bourg (12,000) has no important industry, save trade in corn and cattle. The other towns are small.

47. Saone-et-Loire is traversed by the Côte d'Or mountains. The department is rich in wine, coal, grain, pasture land, and timber.

Macon (17,000) is a nice town, with an extensive wine trade, and manufactures of jewellery. It is an ancient Roman town, with two of its gates still perfect.

Autun (12,000), an ancient town, is also noted for its wine trade.

Chalon (20,000), a strong town with much commerce, at the head of the navigation of the Saone.

Digoin is one of the towns much engaged in the Burgundy wine trade. It stands near the Loire.

48. Cote d'Or is so named from the chain of mountains which run through it from north to south. Its wines are valuable. Honey, game, and fish are plentiful.

Dijon (30,000), on the railway from Paris to Lyons, is a great wine centre, and has a splendid cathedral and a university.

Beaune (10,000) has excellent wines. **Chatillon** (5,000) was the seat of a congress in 1814. This town was taken from the Germans by the son of Garibaldi, by surprise, November, 1870.

49. Yonne is remarkable for its numbers of forests and fine rivers.

Auxerre (15,000) has great trade in wine, a cathedral, college, and public library.

Sens (10,000) is an old cathedral town on the railway from Paris to Lyons. **Chablis** is noted for its white wines.

50. Saone (Haute) is one of the richest districts of France in minerals, and has numbers of smelting furnaces.

Vesoul (6,000) is a pretty town at the foot of a hill of same name.

Gray (7,000), where the navigation of the Saone begins, has trade in iron and grain.

51. Jura touches Switzerland, and is covered on the E. by the mountains from which it is named. It is rich in crops of grain, and its horses are much esteemed.

Lons (8,000) is a small town with trade in salt from its brine spring.

Dole (11,000) stands on the Doubs, and has some transit and other trade.

St. Claude (6,000) has trade in ivory and tortoise-shell.

52. Doubs is covered on the S. E. by the Jura mountains. The canal of the Rhone and the Rhine passes through Doubs, which has good pastures and forests.

Besancon (40,000) is a strong town on the Doubs, with trade in jewellery. It has a cathedral, a library, and an academy of painting and sculpture.

Pontarlier (8,000) is near the Swiss frontier at the entrance to one of the passes of the Jura. **Salins** has large salt works.

53. Isere is bounded on the N. and W. by the Rhone, and a portion of the Alpine system spreads in the department. On the hills are good pastures, and mines of iron, silver, and lead also abound.

Grenoble (32,000) is a chief seat of the French glove-making, and trade in chamois leather. It has a university and a public library. This was the first town that opened its gates to Napoleon I. on his escape from Elba, 1815.

Vienne (20,000) is an old town on the Rhone, with many Roman remains, among others a theatre.

Allevard has mineral waters, and is a mining town.

54. **Drome** resembles a kind of an amphitheatre, formed of the spurs of the Alps, which reach as far as the banks of the Rhone. The soil is naturally sterile, but has, by extensive irrigation, become productive.

Valence (17,000), an old town, has trade in silk. **Romans** (10,000), on the Isere, has active commerce, and is noted for the culture of mulberry trees.

55. **Alpes (Hautes)** is covered on the N. E. by the Alps, presenting many glaciers near the top, forests on the sides, and still lower, rich pastures and smiling valleys. The only important river is the impetuous *Durance*.

Gap (8,000) is a very ancient cathedral town. **Briançon**, on the *Durance*, in an almost impregnable position, is the most elevated town in France, and the highest fortress in Europe.

56. **Ardeche** is bounded on the N. W. by the *Cevennes*, and on the E. by the Rhone. This district has many natural curiosities, and has good pastures.

Privas (5,000) has trade in leather, and is nicely built on a gentle slope.

Annonay (13,000) is the most important town in the department, and has paper mills, silk factories, etc.

57. **Loire (Haute)** corresponds to the ancient country of *Velay*. The *Cevennes* touch upon its E. borders, and the hills of *Forez* traverse it. Here are many traces of extinct volcanoes, with many cascades, fantastic rocks, etc.

Le Puy (17,000) stands picturesquely on a sharp rock near the Loire, and has trade in lace, woollens, and leather. It has a cathedral, museum, college, library, and many other public institutions.

58. **Lozere** is so named from a high peak in the Cevennes, mountains rich in minerals; and in the highlands of this department the rivers Allier, Tarn, Lot, and Gard, have their sources. Sheep are numerous.

Mende (7,000), nicely built on the Lot, has trade in serge, etc., and a beautiful cathedral, with two spires.

59. **Gard** is mountainous on the N. E., and extends to the Mediterranean on the S., where numbers of lagoons are formed in the midst of salt marshes. Iron mines exist here, and vines, olives, and mûriers flourish.

Nîmes, (50,000) whose inhabitants are chiefly Calvinists, is said to have "more Roman remains than Rome itself," including an amphitheatre, aqueduct, fountain, etc. It has manufactures of silk,

Alais (20,000) has coal in its vicinity, and manufactures of silk ribbons. It has a school of mines founded in 1845. **Beaucaire** (12,000), on the Rhone, has large cattle fairs, and is an important railway centre.

60. **Herault** lies along the Mediterranean, where salt marshes are numerous. Its climate is mild. The surface, though mountainous in the N., has many fine plains.

Montpellier (50,000), at a short distance from the Mediterranean, enjoys a delightful climate, with a splendid botanic garden, cloth factories, and trade in wine and brandy.

Beziers (24,000) is nicely situated on the Canal Du Midi. **Cette** (20,000), on a tongue of land, has considerable trade. **Ganges** has trade in silk, and **Clermont** in cloth.

61. **Tarn** is mountainous on the N. and E.; on the W. it consists of plains and valleys, with a fertile soil.

Castres (20,000) is a fine town, with industry in mining and manufactures. It is the birth-place of Rapin the historian.

Albi (15,000) has manufactures of woollens and cottons, iron works, and paper mills. **Mazamet** (10,000) is an important town.

62. **Garonne (Haute)** abounds with excellent wines, cereals, and fruits. It is level in the N., but is bordered by the Pyrenees on the S.

Toulouse (100,000) is a good town on the Garonne, with some splendid public buildings, a cannon foundry, and active trade. Here Wellington defeated Soult in 1814.

St. Gaudens (5,000) commands splendid views of the Pyrenees, and has trade in china ware, tiles, leather, and glass.

63. Aude borders on the Mediterranean, and is to a great extent mountainous. Here the olive and fig reach to the greatest perfection. White and red wines of good quality are produced.

Carcassonne (20,000) is a strangely built old town, with trade in brandy, wines, and minerals.

Narbonne (10,000) has long been noted for the superior quality of its honey; and **Limoux** (8,000) for its excellent wines.

Montreal (3,000) stands on a hill, and commands a view of the mountains of the department.

64. Dordogne has, generally speaking, an unproductive soil, hilly and rocky, but fertile in some of the low grounds, where wheat is produced. Its truffes are the best in France.

Perigueux (15,000), with a good cathedral, has many antiquities, and manufactures of nails and cutlery.

Noutron, with cutlery, **Bergerac**, with wines, and **Miremont**, with beautiful grottoes, are worthy of remembrance.

65. Tarn-et-Garonne, a small department, is chiefly formed of plains and valleys, in which excellent fruits are produced.

Montauban (25,000) stands on the Tarn; has trade in silk. In 1629 it was taken after a siege, being then a stronghold of the Huguenots. It has a Protestant seminary, suppressed in 1629, but re-opened, 1810.

66. Lot-et-Garonne, consisting of several plains, is beautifully watered by the Garonne and its tributaries.

Agen (15,000) has considerable trade in fruits, being in the midst of plum orchards which supply many countries with "prunes."

Villeneuve (13,000) stands on the Lot, and has active trade.

67. Aveyron contains many spurs of the Cevennes, as well as wide plains of considerable fertility.

Rhodes (10,000) stands on the Tarn, and has a beautiful cathedral.

68. **Lot** is to a great extent hilly and mountainous, with some valleys interspersed, in which a rich soil, producing good crops, exists.

Cahors (13,000) has an active trade in wine and tobacco.

69. **Gironde** is a beautiful district, presenting great variety of surface, rich plains in some parts, delightful valleys in others, with smiling vineyards, and extensive pine forests, with bleak hills in others.

Bordeaux (150,000) ranks fourth in population among French towns. It is a magnificent port, with extensive commerce in claret and brandy, as well as other productions of the neighbourhood. It has glass, lace, cotton, and woollen factories. It is the seat of a cathedral of great antiquity, a university, and academy of arts and sciences. The English held it from 1132 to 1457. It is the birth-place of the Black Prince and of Richard II.

Libourne (10,000), on the Dordogne, is an active port. **Castillon** is a battle-field on which Charles VII. defeated the English in 1451.

70. **Landes** is very sparsely peopled, and runs along the coast, where we meet several lakes. It is chiefly watered by the *Adour* and *Gave*. Much fruit is produced here ; but most of the country presents a sterile appearance, and the lower districts are often covered with water, and along the shore of the sea shifting sand hills are met. The inhabitants walk on stilts very much, and are very agile in their movements.

Mont-de-Marsan (5,000) has a pleasant position, and trade in wine and brandy, with resin from the forests of pine.

Dax (6,000) has excellent baths and mineral waters, with trade in brandy and hams. **St. Esprit**, a busy port, is chiefly inhabited by Jews who were driven from Spain.

71. **Gers** is watered by the *Adour*, and is flat on the N., but mountainous on the S. On the whole, it is generally fertile, and produces much brandy.

Auch (10,000) has a splendid cathedral, and some trade in woollens, linens, and leather.

72. **Pyrenees (Hautes)** is one of the most interesting districts of France. Its picturesqueness, abundance of

mineral wealth, delightful valleys, cascades, etc., are equally attractive. In the N. are fertile plains; in the S. high mountains, in which are found the most elevated peaks of the French Pyrenees.

Tarbes (15,000) is a nicely-built town, where an active general trade is carried on with all parts of the Pyrenees. It has an excellent horse fair; and is the resort of travellers to the mountains.

Bagnères, on the Adour, has mineral waters much frequented.

Campan has marble quarries.

73. Pyrenees (Basses) lies in the extreme S. W., on the borders of Spain and the Bay of Biscay, extending from the mouth of the Adour to that of the Bidassoa; on the S., the Pyrenees cover much of the department, presenting in many places sharp rocks, and on their sides mountain forests. The inhabitants, many of whom are shepherds, are brave and warlike, much addicted to their ancient customs and language.

Pau (19,000) is a fine old town, where Henry IV. of France, and Bernadotte, King of Sweden, were born.

Bayonne (18,000), near the mouth of the Adour, is a strongly fortified town, with an active trade. Here the bayonet was invented; hence its name. In 1814 Wellington here defeated the French, under Soult. **Orthez** is an industrious town. **St. Esprit**, opposite Bayonne, is chiefly inhabited by Jews. **Eaux-Chaudes** has mineral waters. **Biarritz** is a nice bathing-place, recently much frequented.

74. Arriege is covered on the S. by peaks of the Pyrenees, which here exhibit many natural curiosities.

Foix (4,000) stands on a rock in a very picturesque situation.

St. Giron (4,000) has trade with Spain, and some foundries.

75. Pyrenees Orientales is, for the most part, mountainous, and is watered by the rivers *Tech*, *Tet*, and *Agly*, all of which flow into the Mediterranean. Olives and vineyards abound.

Perpignan (23,000) stands on the Tet, and has trade in wine. It is a strong fortress, and has good public buildings.

76. Vaucluse was formed from the small state of Avignon (which, until 1790, belonged to the popes), and the principality of Orange. On the E., the branches of the Alps are found, but the rest of the country is fertile.

Avignon (37,000), through which the railway from Lyons to Marseilles passes, is a fine old city—the residence of the popes from 1305 to 1376. It has a papal palace, a cathedral, and a recently erected theatre, and nice walks and gardens. Its trade is almost exclusively in wines and perfumes.

Orange (10,000), the cap. of the ancient principality of same name, has Roman remains. It formerly belonged to the Princes of “Orange.”

Cavaillon is noted for its excellent melons. **Vaucluse** stands in a valley, and has prolific springs, and fine fountains.

77. Rhone (Bouches-du) contains some of the spurs of the Alps in the N. and E. A canal connects the Rhone with the Durance ; rich plantations of olives abound ; and numbers of horses and cattle of superior quality are found here.

Marseilles (270,000) ranks as the first port in France. Its trade in wines, fruits, etc., has extended very much since Algeria became a French possession in 1830. It is a very ancient town, with some public buildings, good spacious docks, and extensive fortifications.

Aix (25,000) was the ancient cap. of Provence ; has mineral waters and much esteemed olive oil. **Arles** (24,000), on the Rhone, near its separation into two branches, is an old town. **Tarascon** (10,000) stands also on this river, and has some trade and manufactures.

78. Alpes (Basses), as its name imports, is mountainous on the E., and possesses rich pastures on the W., on which immense flocks of sheep are fed.

Digne (5,000), a small town, is the capital, and has trade in corn and hemp.

79. Var, on the extreme S. E., is very much occupied by the Alpine spurs, except near the sea, where olive and orange groves, vineyards, and mulberry trees abound. Two groups of isles are near the coast—the Hyers and Lérins.

Draguignan (11,000) has trade in olive oil.

Toulon (80,000) ranks first of the four great naval arsenals of France, has a good roadstead, and extensive trade in wine, fruit, and olive oil. It was entered by an English force in 1793, and was soon after besieged and taken by Napoleon I., whose genius was here first developed.

80. Savoy lies between the Alps and Isere, and is greatly covered with mountains. The district contains most delightful scenery. In the N. W. is the lake Bourget, 10 miles long, and 3 broad.

Chambery (13,000) is in the W., about equally distant from Lyons and Geneva. It has trade in silk gauze, and is on the railway going through Mont Cenis.

81. Savoy (Hautes) lies between the previous department and Lake Geneva, and contains Mont Blanc, the highest alpine peak, and many low ones.

Chamouni (2,000), the cap., is a mere village, from which travellers set out to make the ascent of Mont Blanc. It is chiefly inhabited by guides. It stands 3,000 feet above sea level.

82. Alpes (Maritimes)* contains part of the territory ceded by Italy in 1859, and lies on the Mediterranean, and extends as far as the river Roya, the Italian boundary line. It is a beautiful country, with an excellent climate.

Nice (48,000) has long been noted for the mildness of its climate. It is much engaged in the manufacture of silk, olive oil, and perfumery, and is still an attractive winter residence. It is a free port. On an average, four or five thousand English reside here.

Mentone (4,000) has recently become a very favourite resort of invalids, and has successfully rivalled Nice. It is the chief town of the principality of *Monaco*, which was independent until a few years ago, when it was annexed by Napoleon III.

Grasse (12,000) has also trade in oils, perfumes, and fruits. **Cannes** (5,000) has a nice climate. Lord Brougham resided here for some time before his death. **Antibes**, with some antiquities, has trade in salt and fruit.

* *Alsace*, with the exception of the fortress of *Belfort* (which heroically held out against the Germans, 1870) and some land around it, now belongs to Germany. *Lorraine* has nearly all been added to Germany. *Nancy* is the capital of what remains to France.

83. **Corsica**,* which has belonged to France since 1768, is, generally speaking, mountainous; the principal range running N. and S., and in which several streams have their sources. These are short ungovernable torrents rushing with impetuosity to the sea. On these mountains a kind of wild sheep are found, called moufflon. The coast on the W. is high, and indented by gulfs and bays, while on the E. it is tame. The climate is very temperate; wheat, maize, barley, wine, sugar, indigo, and tobacco are, with oranges and other fruits, the chief productions.

Ajaccio (2,000), the cap., was the birthplace of Napoleon I., in 1769. It is on the W. coast, and has trade in wine, oil, and coral.

Bastia (6,000) is an active port. **Calvi**, on the N. W., is a small port, at an attack on which Nelson lost his eye, 1797. **Corte** (5,000), in the interior, was the former capital. **Bonifacio** has good coral fisheries.

Mountains.—France, generally speaking, is not a mountainous country. Besides the border ranges of the *Alps* and *Pyrenees*, the *Cevennes* and the mountains of *Auvergne* are distinguished. To these must be added the Corsican chain, which runs through the centre of the island.

It has been already stated that the Alps cover a portion of the S.E. of France, where *Mont Blanc* rises 15,777 feet. A railway over, and now a tunnel through, *Mont Cenis*, leads into Italy. The *Jura* range does not rise so high, and lies on the Swiss frontier. The *Pyrenees*, already described (p. 61), have *Mont Perdu* (10,994 feet), their highest French peak. The *Cevennes* generally run in a rugged range N. and S., dividing the basin of the Loire from that of the Rhone, and rising in *Mont Mezen* to 5,794 feet. The mountains of *Auvergne* run to the N.W., and in a divergent course separate the basins of the Loire and Garonne, and present in *Puy-de-Sancy* (6,171 feet) the highest peak in the interior of France. Many branches run in various directions, the most important being called *Domes*, of which *Puy-de-Dome* is 4,806 feet in height.

It was conquered by the Genoese, 1481, who held it until 1755, when it became independent.

Plains.—In the N. E. a plain may be traced from the borders of Belgium, embracing in its continuation the lower portions of the rivers Seine, Loire, and Garonne, as far as the Spanish frontier. The ancient province of Burgundy is also level, or slightly undulating, along the course of the Saone.

Minerals.—As a country possessing useful minerals, France ranks high. There are three *schools of mines*—at Paris, founded in 1783, St. Etienne, founded in 1816, and at Alais, founded in 1845—which supply mining engineers for the country.

Iron is abundant, but rather far from the coal. St. Etienne is one of its chief centres. Coal is found in five fields :—1. In the N., near the Scheldt. 2. In the centre, between the Loire and the Saone. 3. Between the Loire and the Rhone. 4. In the valley of the Cher. 5. In the S., in the valleys of the Aveyron and the Gard. Lead and Silver are found in Finisterre, Isère, Puy-de-dome, and Lozère. Manganese, and Arsenic, are less widely diffused. Bitumen and Asphalt are also found. Slate is found near Cherbourg; and excellent building stone near Caen.

Forests are still very extensive and very carefully looked after; indeed one-seventh of the country is covered with plantations. On the mountain sides are chestnut and beech, with the oak and cork tree in the Pyrenees. Timber, and turf from the marshy lands, constitute the principal articles of fuel. The dreary plains called *Landes* have been planted with pine trees.

Canals.—Since the introduction of railways canals have become of very little importance in every country.

The Canal du Midi* unites the Garonne and the Mediterranean.

The Canal du Centre unites the Rhone and Loire.

A third canal runs from the Rhone to the Rhine, and a fourth from the Rhone to the Seine; a fifth runs from Brest to Nantes.

* "*Du*" means "of the," *midí* means "South."

Rivers.—France has four great rivers :—The *Seine*, *Loire*, *Garonne*, and *Rhone*. The drainage of the country may be considered under four basins :—1. The Mediterranean. 2. Bay of Biscay. 3. The English Channel. 4. The North Sea.

The *Rhone* has been already described at page 66.

The *Var* formed, until 1859, the boundary between France and Italy.

The *Adour*, in the S. W., descends from the Pyrenees in a rapid stream, and enters the Bay of Biscay, below Bayonne.

The *Gave* is its chief tributary.

The *Garonne* has been described.

The *Charante*, with good navigation, rises in the hills of Limousin ; it passes in a very circuitous course Angoulême, Cognac, and Rochfort, entering the sea opposite the isle of Oleron.

The *Loire* has already been described, page 62. One of its tributaries, the *Lot*, has a course of 250 miles.

Many smaller rivers, such as the *Vilaine* and *Orne*, are found in the N. W.

The *Seine* has already been described. The *Marne* joins the *Seine* near Paris, after a course of 200 miles. The *Eure*, the *Oise*, and the *Aisne* also flow into the *Seine*. The *Somme* flows past Amiens and Abbeyville, and reaches the English channel. The *Scheldt* and *Meuse* flow through Belgium to the North Sea.

Lakes.—France has hardly any lakes of importance, save the lagoons found near the Mediterranean and the Bay of Biscay.

Mineral Springs.—No country in the world has so many mineral springs. Some state that even 4,000 exist. The best known are *Pau*, and *Vichy*.

Coast Line.—The coast line probably extends over 1,400 miles. On the N. E. is the cape *Grisnez*, and further W. two large bays, that of the *Somme* and *Seine*, and still further W. the peninsula of *Cotentin*, beyond which is the bay of *St. Malo*, called also gulf of *Bretange*. The island of *Ushant* lies off the coast of *Brittany*, with a population of 2,500. In the harbour of *Brest* 500 vessels could safely anchor. *Belle Isle*, in the Bay of Biscay, with rocky cliffs

but a fertile interior, was taken by a British force in 1761, and held till 1763. Its population is about 10,000. *Noirmontiers*, a little S. of the mouth of the Loire, is rich and fertile, with salt marshes, and about 8,000 inhabitants. *Dieu*, *Ré*, and *Oleron* are the largest islands on this coast. *Ré* is a good fishing station, and produces much wine. The remaining coast of the Bay of Biscay is very tame. On the Mediterranean are the *Lerins*, two isles well fortified, and *Hières*, with a town of this name as capital, and an active little port.

Manufactures.—The general character of all French manufactures is, that they are more for luxury than use, exhibiting great variety, combined with delicate manipulation and exquisite taste.

Linen has its chief seats at Lille, Rouen, and St. Quentin. The beautiful table linens of St. Quentin are justly prized. **Cotton** is manufactured at Rouen. **Woollens** are made in many places—Amiens, etc. **Silk** is raised in many of the S. E. departments, and manufactured at Lyons and many of the neighbouring towns. Indeed the quantity raised in the country is quite insufficient, and raw silk is imported from Italy, Turkey, and other places. The **Lace** of Valenciennes, the **Porcelain** of Sèvres, the **Jewellery** of Paris, the **Gloves** of Grenoble, are all of unrivalled excellence. **Surgical and Astronomical Instruments** are extensively made at Paris.

Agriculture.—In addition to the ordinary crops of cereals, which are produced all over the country, France, according to climate and productions, may be divided into three parts.

(1) In the north the climate much resembles that of the S. of England, and flax, potatoes, and grain are largely raised, as well as beet-root for the sugar manufacture. (2) In the centre, where the sky is less cloudy, the vine, so carefully tended by the people, becomes an important production. The chief seats of the champagne wine are Rheims and Chalons ; of Burgundy, Autun, and Dijon ; of claret, the district inland from Bordeaux ; and of brandy, Cognac. (3) In the S. the olive and fig flourish under a delightfully clear atmosphere, where maize also is produced. It may be observed that

the climate on the E. is much warmer than on the W. For instance, the vine is only found on the W. as far N. as the mouth of the Loire, while on the E. it almost reaches the 50th parallel. While maize on the W. is only found at the mouth of the Garonne, on the E. it reaches almost to Strasbourg.

Commerce.—The commerce of France is very extensive, and ranks next to that of England and the United States. The shipments of wines, brandies, articles of taste and luxury, of eggs and fruits, silks and velvets, form an important commerce. France imports raw silk, tea, coffee, wool, hardware, timber, coal, etc.

Education.—Though France stands pre-eminent in its establishments for instruction in the fine arts, chemistry, surgery, music, astronomy, etc., the recent lamentable war with Germany proved her education system more showy than profound, particularly in the all-important matters of a people's education—arithmetic, penmanship, and geography. Great efforts are being made to extend elementary education at present in the common schools.

Animals.—In addition to the ordinary tame animals, wolves are numerous in the mountainous districts; bears, though decreasing in numbers, are still met with on the highest mountains. The chamois or wild goat, the ermine, and marmot, are found in the Alps and Pyrenees. In the woods are found the wild boar, roebuck, fox, squirrel, and marten.

COLONIES.—In *Africa* the French possessions consist of Algeria, Senegal and its dependencies, the isles of Bourbon and St. Marie in the Indian ocean, Mayotte with its dependencies, portions of the island of Madagascar, and stations on the coast of Guinea: total area 95,000 square miles, and population 500,000. In *America* are Martinique and Guadeloupe in the W. Indies, French Guiana, the fishing stations St. Pierre and Maquelon on the coast of Newfoundland; total area 80,000 square miles, and population 300,000. In *Asia* are Pondicherry, Mahé, etc.: area 10,800 square miles, population $2\frac{1}{4}$ millions. In the Pacific the Marquesas, Tahiti, and New Caledonia: area 9,560 square miles, population 84,000.

SPAIN.

Spain occupies five-sixths of "the Peninsula," and has a surface traversed by mountain ranges running parallel with long rivers. It contains a plateau in the centre on which stands the capital. The Atlantic seaboard, including that of the Bay of Biscay, is about 600 miles, while that of the Mediterranean is 712 miles.

It lies between the parallels of 36° and 43° 45' N. latitude, and between 3° 20' and 9° 20' W. longitude. Its greatest length is 560 miles, and its average breadth 380 miles. Spain is bounded on the N. by the Pyrenees and the Bay of Biscay ; on the W. by the Atlantic and Portugal ; on the E. by the Mediterranean ; and on the S. by the Mediterranean and Atlantic. It was formerly divided into 14 districts, but since 1833 the division is into 48 provinces.

Districts.	Sqr. miles.	Population	Capitals.
1 Galicia .	11,335	1,880,552	Santiago.
2 Asturias .	4,086	571,335	Oviedo on the Gijon.
3 Basque Pro- vinces }	2,778	459,000	Bilbao on the Nervion.
4 Old Castile .	25,565	1,691,297	Burgos on the Arianzon.
5 Arragon .	17,726	921,305	Saragossa on the Ebro.
6 Navarre .	4,450	300,000	Pamplona.
7 Catalonia .	12,480	1,731,798	Barcelona on the Mediter- ranean.
8 Valencia .	8,883	1,342,515	Valencia on the Guadala- viar.
9 Murcia .	10,440	621,728	Murcia on the Segura.
10 Andalusia .	33,637	3,146,515	Seville on the Guadalqui- ver.
11 Estremadura .	16,688	715,899	Badajos on the Guadiana.
12 New Castile .	27,882	1,493,234	Madrid on the Manzanares.
13 Leon .	15,294	878,437	Leon.
14 Islands .	4 981	535,068	Palma and Santa Cruz.

1. Galicia contains the most northern point of Spain, Cape Ortegal, as well as the most western, Cape Finisterre,

The surface is mountainous, and has the most irregular and most indented coast line in "the Peninsula." Wine, fruits, wheat, maize, timber, and flax, are the chief products, and linen the chief manufacture. The river *Minho* separates this province from Portugal. It is divided into the modern provinces, *Corunna*, *Lugo*, *Orense*, and *Pontevedra*—all inhabited by a robust and athletic race.

Santiago (30,000), the largest town, is so named from St. James, the Elder, the patron Saint of Spain, who was, it is said, buried in its cathedral.

Corunna (20,000) is strongly fortified, and stands on a bay of the same name. It has a very extensive cigar manufactory, and active trade. Here Sir John Moore fell in the moment of victory, fighting against the French, 1809. **Ferrol** (16,000), on the same bay, on its N. shore, is one of the three Spanish naval arsenals. **Vigo** (8,000), towards the south, has a spacious and well-sheltered harbour. **Pontevedra** is surrounded with fruit trees and orchards.

2. **Asturias** is a long, narrow province, lying along the Bay of Biscay, with a mountain range for its southern boundary, some of the peaks of which rise to 10,000 or 11,000 feet, and exceed the limits of the snow-line. From this range the surface has a gradual slope towards the sea. The country is rich in copper, iron, zinc, marble, jet, coal, and peat, and its mountains are covered with forests. Several fertile valleys are found affording good pasturage. Cider is the common beverage. *Oviedo* is the modern province.

Oviedo (10,000) stands nine miles from the coast, and was, when the Moors flourished in Spain, the residence of the Christian kings. It has a cathedral and a university. **Gijón**, on the coast, is its port.

3. **The Basque Provinces** are situated further E., a portion of old Castile coming in between them and Asturias. It is a small rugged district, separated from France by the river *Bidasoa*, and in shape triangular. It is the seat of the Basque population, an athletic race who speak a language different from Spanish. The mineral wealth is very

important ; and flour is largely exported. The district corresponds to the modern provinces of *Bilbao*, *St. Sebastian*, and *Vittoria*.

Bilbao (10,000), the capital, is a commodious port ; the chief place for exporting Spanish wool.

St. Sebastian is a fortified seaport, which was stormed and taken by Wellington, from the French, in 1812. *Vittoria*, an inland town, was the scene of Wellington's last victory over the French on Spanish soil. The engagement raged fiercely for six hours, and after it Wellington crossed over into France, near *Irun*, the *Bidasoa* being fordable here at low water. *Fontarabia* is a frontier fortress on the borders of France.

4. **Old Castile** runs inland from the Bay of Biscay to the centre of the kingdom, and is crossed by two mountain chains, one to the N., the other to the S. The inhabitants are as lazy as they are haughty, and look down with contempt on the producers of wealth.

Burgos (15,000), with some shady walks and pleasant gardens in its vicinity, is an old and decayed city, with one of the most richly decorated cathedrals in the world. Its archbishop was murdered a few years ago.

Santander (20,000) is a flourishing seat of Spanish commerce, with active trade with the West Indies and other places. It has a good harbour and some tobacco factories, with iron mines in the neighbourhood. A railway connects it with Madrid.

Valladolid, though once the capital of the country, is now a city of little importance. It has a university.

Palencia is another old town on the railway just mentioned.

Segovia, in the midst of good sheep pastures, has some cloth works.

La Granja, on the mountains, has near it the summer palace of the Spanish monarchs, about 4,000 feet above sea level, upon the grounds of which the wild boars often intrude even at the present time.

5. **Arragon** extends from the crest of the Pyrenees S., beyond the Ebro. On the sides of the hills are forests of oak, beech, and pine. Copper, lead, iron, salt, and alum are found ; and crops of wheat, rye, maize, and barley, with a little rice along the banks of the Ebro, are raised.

Saragossa (80,000), the capital, is an old town, with a cathedral, a university, and silk and cloth factories. It is memorable for a siege by the French in 1808-9, when the women fought on the walls like heroic men.

6. **Navarre** was formerly a distinct kingdom, extending on both sides of the Pyrenees. Three-fourths of the surface are mountainous, the remainder containing valleys and plains. The *Ebro* is the chief river. Forests cover most of the hill sides, and the country is well stocked with fish and game. Sheep-farming is extensive. *Saragossa*, *Huesca*, *Teruel*, are its divisions.

Pamplona (10,000), the capital of Navarre, is an important fortress at the foot of the mountains, with a bull-ring which can contain 10,000 spectators. It was taken in 1813 from the French (who had held it from 1808), by the British.

Tudela (9,000), on the *Ebro*, has a cathedral, and some manufactures of woollens and earthenware.

7. **Catalonia**, in the N.E., extends from the Mediterranean to the S. of the mouth of the *Ebro*. Cork and pine trees are abundant S. of the Pyrenees. The inhabitants are energetic and intelligent, and agriculture is more advanced than in the other provinces. It contains four modern provinces:—*Barcelona*, *Girona*, *Lerida*, and *Tarragona*.

Barcelona* (260,000), the second city of Spain, stands on the Mediterranean, and has been for ages a place of importance. It has at present steam communication with almost all the ports on the Mediterranean. Many good shops, hotels, and public buildings adorn the principal streets. Beautiful lace is made in the outlets, from which several narrow streets radiate towards the centre of the town. It has a university, 8 colleges, many scientific institutions and libraries. It was taken by the Earl of Peterborough, 1705.

Matara (13,000) is a seaport further N.; **Tarragona** (18,000) and **Tortosa** (18,000) are ports further S. Among the inland towns may be named **Gerona** (8,000), strongly fortified, resisted the French very bravely, 1809; **Manresa** (13,000) and **Lerida** (16,000) are manufacturing towns on the railway from *Barcelona* to *Saragossa*. **Reus**

* Said to have been founded by Hamilcar Barca; hence its name.

(25,000) stands a little inland, and has active trade. Vich (14,000), on the Ter, has some beautiful specimens of architecture of the middle ages.

8. **Valencia** extends along the coast almost from the mouth of the Ebro to a little S. of the mouth of the Segura, but not running far inland. Its inhabitants are quick and gay, and fond of pleasure. The air is pure ; but sometimes the pestilential wind, the *solano*, prevails.

Valencia (150,000) stands on the Guadalaviar, about three miles from its mouth, and is a very busy city, being the centre of silk and cloth manufactures. The old Moorish walls remain, which are entered by eight gates. It is called "Valencia the Beautiful," and has a flourishing university. It was taken by the French, 1812.

Alicante (22,000) stands at the base of a high rock on the Mediterranean, 280 miles by rail from Madrid; of which it is the port. **Elche** (18,000) has great industry in the cultivation of date palm. **Alcoy** (25,000) is well known on account of its paper cigars and sugar plums. **Orihuela** (18,000) stands in a beautiful district called "The Garden of Spain," and was in the hands of the Moors 550 years. **Murviedro** (6,000) is famous for its Roman antiquities. **Castellon** (17,000) has active trade, and manufacture of brandy.

9. **Murcia**, lying S. W. of Valencia, enjoys a delightful climate, only faulty from its dryness. But little advance has been made in industrial pursuits by its indolent inhabitants. It contains *Murcia* and *Albacete*.

Murcia (25,000), a cathedral city, on the Segura, has manufactures of nitre and gunpowder. It was taken and sacked by the French in 1810. **Carthagen**a or **Cartagena** (30,000), the chief of the three Spanish naval arsenals, has one of the best harbours on the coast. It has shipping, glass, and smelting works. **Lorca** (40,000) has linen and saltpetre factories. **Albacete** (10,000) has trade in cattle and grain. **Almanza** (8,000) was the scene of the defeat of Lord Galway by the Duke of Berwick, 1707.

10. **Andalusia** is one of the most delightful districts of the peninsula. It is traversed by the *Sierra Morena* mountains on the W., and by the *Sierra Nevada* in the interior. It is watered by the Guadalquivir, and peopled by a race

which preserves much of the Arabic character. The climate in some of the valleys is so delightful that the sugar-cane and cotton plant grow. Corn, fruit, wine, and oil, are the principal productions. It contains eight modern provinces.

Seville (150,000), one of the best of Spanish cities, stands in a fine plain in the midst of olive and orange groves, about 45 miles from the river's mouth. An old wall surrounds the city, which still contains a Moorish palace, a Gothic cathedral, and many good public buildings, with Roman and Moorish remains. It has immense trade in oranges and tobacco. It has a government cannon foundry.

Granada (100,000) is situated on a plain renowned for its beauty and fertility, and is said to contain some of the finest specimens of Moorish architecture. It has a university, and numerous churches, hospitals, etc. **Malaga** (100,000) is an active commercial port, with trade in wine and dried fruits. It was held by the Moors from 714 to 1487, and was taken by the French, 1810. **Cordova** (60,000) stands on the Guadalquivir, and was once the capital of the Moors, when it contained double its present population. It was long noted for the manufacture of a kind of leather called Cordovan.

Cadiz (70,000), on the Isle of Leon, is a Spanish port with active trade. It has productive salt pits. This town was taken by the English, 1596; but in 1702 it was unsuccessfully attacked by the Duke of Ormond and Sir G. Rooke. **Tarifa** (7,000) is a good fishing town. **Algeiras** (10,000) has linen and cotton factories, and overlooks the bay of Gibraltar. **Xerez** (30,000) is much engaged in wine-making, and gave its name to Sherry. **Palos**, now insignificant, was the port whence Columbus set sail, 1492, to discover America; and *San Lucar* is the place whence Magellan set sail.

11. **Estremadura** is one of the poorest and least peopled provinces in Spain. It is crossed by three chains of mountains, with two valleys traversed by the Tagus and Guadiana. Its valleys are clad with rich pastures, and its hill-slopes with woods. On the hills in summer, and in the valleys in winter, sheep farming is extensively carried on. It consists of two provinces, *Badajós*, *Cáceres*.

Badajos (22,000), a strong fortress, stands on the Guadiana, in a vast plain, near the Portuguese frontier. It has manufactures of soap and coarse woollens. In 1810 it was taken by the French after a

siege of two months; and after a siege of three weeks in 1812 Wellington took it by storm, after a dreadful conflict with the French, in which he lost 5,000 men in killed and wounded.

Merida, higher up the river, though once large and populous, is now of little importance.

12. New Castile, embracing elevated plains, intersected by mountain chains, is an extensive district in the centre of the kingdom, on which immense flocks of sheep are fed. Wheat is largely raised. Here, as well as in many other parts of Spain, mules are used as beasts of burden. The inhabitants are exceedingly haughty, and use a language of great pomposity, and are too proud for ordinary industrial pursuits. It includes the new provinces—*Madrid*, *Toledo*, *Ciudad Real* or *La Mancha*, *Cuença*, and *Guadalaxara*.

Madrid (390,000) has an uninviting aspect. It is situated on an exposed plateau, 2,000 feet above sea level, being surrounded by a brick wall twenty-five feet high, and entered by fifteen gates. It contains many wide and well-paved streets, public walks, fountains, richly decorated churches, and many public squares and government buildings. It has a university of considerable reputation, an amphitheatre for bull-fights, four theatres, and three museums. Two factories, one of porcelain, the other of tapestry, are carried on. It always enjoys a pure but keen air. In 1526 a treaty was made here between Charles V. and Francis I., by which the latter was liberated on paying a ransom. In 1808, it was entered by the French, who held it until 1813.

About 26 miles N.W. is the *Escorial*, a magnificent palace and monastery, erected by Philip II., in the form of a gridiron, and containing 48 wine cellars, 11,000 square windows, 1,860 rooms, and 14,000 doors.

Alcala (4,000) was the birth-place of Cervantes. **Toledo** (16,000), a very old town, with a palace, a university, and a cathedral, was long famous for its sword blades. **Talavera** (6,000) was, in 1808, the scene of a victory of Wellington over the French, under Victor. **Cuença** has paper mills, and an establishment for washing wool. **Ciudad-Real** (10,000) is an old town, with trade in fruits and oil.

13. Leon, traversed from E. to W. by the Douro, extends from the Asturias mountains to the Sierra d'Estrella, con-

sisting, in many places, of a barren tract. A portion of the inhabitants differ from all other Spaniards, and are known as carriers throughout the country. They are called *Maragatos* or Moorish Goths, and still retain the habits of the Moors. It consists of *Leon*, *Zamora*, and *Salamanca*.

Leon (6,000) is a very old town, gloomy and dirty.

Salamanca (13,000), with a celebrated university and many fine old buildings, was the scene of a victory of Wellington over the French, 1812. It has the largest bull-ring in Spain. *Astorga* is the capital of the *Maragatos*. *Zamora* (12,000) stands on the Douro.

14. **Islands.**—The *Balearic Islands* constitute a modern province, and the *Canary Islands* another.

Majorca, the largest, has an uneven surface, nicely varied, a mild and healthy climate, a fertile soil, with rich pastures, with abundance of fruits and some wine.

Minorca, with similar productions, is not so hilly in surface. It was held by the British from 1708 to 1758, when it was retaken by the French. It remained under Britain from the peace of 1763 till 1782, when it was taken by the Spaniards; again taken by Britain in 1798; restored 1802.

Islands.	Area sq. miles.	Population.	Capital.
Balearic.			
Majorca,	1,360	250,000	Palma (40,000).
Minorca,		45,000	Port Mahon (13,000).
Iviça,		20,000	
Formentara,		2,000	
Cabrera,	Used as a place of exile by Spain.		

The *Canary Islands* are seven in number—*Teneriffe*, *Gran Canaria*, *Fortaventura*, *Gomera*, *Lauzarote*, *Palma*, and *Ferro*, together with many smaller ones. The population is about 240,000.

Teneriffe, the largest island, contains the capital of the group, *Santa Cruz* (9,000), an active little town.

Palmas, on the island of Gran Canaria, is the commercial capital, and has a good harbour, and active trade in wine, fruits, and other productions of the island. On Teneriffe stands the celebrated mountain of same name, the peak of which is above 12,000 feet above sea level, exhibiting on its sides every variety of vegetable production.

Railways connect the capital with Alicante and Santander, and Barcelona with Valencia, running along the coast. A railway runs through the valley of the Ebro, connecting Saragossa with Bilbao. From Cordova lines proceed to Malaga and Cadiz.

Mountains.—The general direction of the mountains of "the Peninsula" is from E. to W. Five extensive ranges are distinguished.

The Pyrenees, with their continuation, the Asturias mountains, run, with little interruption, from Cape Creuse to Cape Finisterre, an elevated, bluff cliff, very abrupt towards the S., with rugged features. The second range slopes gradually towards the N., but is much more irregular in its course, commencing a little S. of the mouth of the Ebro, on the E., passing N. of Madrid, under the name of *Castilian* mountains, and further W., the *Sierra de Gredos*,* *Sierra de Gata*, and in Portugal, the *Sierra d'Estrella*, terminating in the rock of Lisbon. The third range neither rises so high nor extends so long as the preceding. It lies S. of the Tagus, separates the basins of the Douro and Tagus, and is called the mountains of *Toledo*. The fourth lies S. of the Guadiana, and is called the *Sierra Morena*, which is crossed by several streams which flow to the Guadalquivir. The fifth range, which has the highest peaks in the Peninsula, may be traced from the vicinity of Gibraltar to the vicinity of Cape Palos, under the name of *Sierra Nevada*, which rises at Mulhacen to 11,387 feet. The snow-line on this mountain is about 9,509 feet high; and the range descends in terraces to the sea shore.

Table-land.—The plateau in the interior has, in Castile, a mean elevation of 2,500 feet, and is skirted by the Asturias mountains on the N.; on the W. by the frontiers of Portugal.

Minerals.—Spain is very rich in minerals. Silver is found in Granada and Murcia; copper and manganese in the same districts; iron is found all over the country; coal in many places; the richest quicksilver mines in Europe are at Almaden; tin in Galicia; and marble and salt in Catalonia. The mineral wealth, for want of good roads, and lack of enterprise in the inhabitants, is very little developed.

* The word "sierra" means saw-like, or serrated.

Forests of cork trees, and plantations of olives, and groves of oranges, are found in some parts; but in general the aspect of the country is dreary. The Spaniards, in general, dislike trees; and forests are becoming things of the past.

Rivers.—The Iberian peninsula slopes, for the most part, towards the Atlantic. The rivers flowing into the Mediterranean are:—

The **Llobregat**, which rises in the Pyrenees and flows into the sea a few miles S. of Barcelona; the **Ebro**, already described; the **Guadalquivar**, which rises in Arragon, and flows into the sea at Valencia, after a course of 150 miles. The **Jucar** rises in the E. of the table-land, and flows nearly S. for about 100 miles, and enters the sea after a course of 200 miles. The **Segura** is further S., runs through a fertile plain, and passes Murcia on its way to the Mediterranean.

The rivers between Cape Palos and Gibraltar on the S., and into the Bay of Biscay on the N., are unimportant. The following rivers flow into the Atlantic:—

The **Minho**, which rises in the mountains of Galicia, flows S. to the town of Orense, turns S. W., and after forming the boundary, for some distance, between Spain and Portugal, enters the sea, after a course of 160 miles. The **Douro** rises in the plateau of Soria, about 3° E. longitude. It is formed of an immense number of streams from the mountains on either side. Its course is westerly; but on the frontiers of Portugal it runs S., forming the boundary for 60 miles; again turning W., it enters the sea near Oporto. Zamora is on its banks. It is subject to violent floods. The **Tagus** has been described at page 62. The **Guadiana** rises in La Mancha, and after flowing about 120 miles through the plains, begins to run S., and forms the Portuguese boundary, for about 30 miles after passing Badajos. It now enters Portugal, but near its mouth again flows on the borders. It is about 450 miles long; and passes Ciudad Real, Badajos, and Rivas. **Guadalquivar**, which is about 300 miles long, waters some of the fertile plains of Andalusia, passing Cordova and Seville, after which it makes many meanderings, and enters the sea, where two swampy islands are formed at its mouth.

Climate, &c.—The climate varies greatly. In winter the cold is very severe, and rain and snow are frequent. The average rain-fall in the S. and on the W. coast is from 25 to 35 inches; but in the

centre of the country only 10 inches. In Andalusia, a pestilential wind called *solano*—the sirocco of Italy—witheres the vegetation.

Lakes.—Hardly any lakes are found in Spain.

Coast Line.—On the shore of the Bay of Biscay the coast is straight and unbroken, with only a few small inlets called *rias*, at the mouths of small rivers. On the W. the coast is rocky, with many fine bays, and some small rocky islands. On the S.W. the Atlantic coast is low and sandy, and in some places even swampy. From Gibraltar to Cape Palos the coast is rocky, with few inlets; but from this point near to Alicante a low coast is again seen, and thence to the mouth of the Ebro it varies much; thence to the coast of France it also varies much, with two good bays, Barcelona and Rosas.

Manufactures.—The manufactures of Spain are unimportant. Silk is made at Valencia; linen in the N.W.; and wines at many places.

Agriculture is in a very backward state, the most primitive methods of tillage being still in general use. The inhabitants, like those of most warm countries, are endowed with very little energy.

Commerce.—The commerce of Spain is only in its infancy. Wines are largely exported, as well as fruit and corkwood; some minerals are also exported, but Marino wool is the most important export. Cattle have lately been largely exported.

Education is now fast advancing; and it appears that a regular system of elementary instruction has been adopted in the primary schools.

Colonies.—Spain still possesses the following colonial possessions:—The islands of Cuba and Porto Rico in the West Indies; the Philippine and Ladrone islands in Asia; Fernando Po, Tetuan, etc., in Africa.

Andorre.—This little republic is on the S. side of the Pyrenees, adjoining Ariège, occupying a very picturesque district, containing much iron ore. It is ruled by two presidents, one appointed by France, the other by the Spanish bishop of Urgel, with a council of twenty-four members. The capital is Andorre; and the inhabitants are engaged in iron manufacture, with a little agriculture. Smuggling is much resorted to.

BRITISH POSSESSION.

Gibraltar is a projection from the Spanish mainland, going as far S., save five miles, as Tarifa point, the most southerly land of Europe. To the coast line of Andalusia, the "Rock" of Gibraltar, which is about three miles in length, is attached by a low sandy isthmus. The town is built on the only landing place, on the W., where Gibraltar bay makes a circular sweep; and craggy rocks are on the other sides. On the inaccessible rocks the monkeys scamper about and afford amusement to the garrison—the only place in Europe where they are found wild. The fortifications are dug out of the solid rock, rendering it the strongest fortress in Europe.

Gibraltar (15,000) consists of three streets running parallel to each other, the longest being about a mile in length. Every day may be seen in the town a mixture of the inhabitants of most European nations. There are no fresh water springs, and the only supply is the rainfall; hence, in the hot season, from July to November, epidemics have often preyed on the inhabitants. In 1462 it was taken from the Moors. In 1704 it was taken by Sir G. Rooke, and in 1779 it was gallantly defended against a combined attack of France and Spain, by General Elliot, created Lord Heathfield. The blockade lasted until 1782. About 1,000 guns are now mounted on the fortifications, one of which is fired every evening, and the town closed for the night.

PORTUGAL.

Portugal partakes in its entirety of the physical features of Spain, already sufficiently given in detail. Though once important, and holding Brazil as a colony, it is now, perhaps, the least influential country of Europe.

It is about 360 miles long, and 134 broad, and lies between the parallels of $45^{\circ} 8'$ and $46^{\circ} 55'$ N. latitude; and between the meridians of $6^{\circ} 15'$ and $9^{\circ} 30'$ W.

The following are its divisions:—

Old Provinces.	New Provinces.	Capitals.
Algarve,	Faro,	Faro (9,000), on the Douro.
Alemtejo,	{ Beja,	Beja (6,000).
	{ Evora,	<i>Evora</i> (15,000).
	{ Portalégre,	Portalegre (6,000).
Estremadura,	{ Lisbon,	<i>Lisbon</i> (340,000).
	{ Santarem,	Santarem (8,000), on the Tagus.
	{ Leiria,	Leiria (3,000), on the Liz.
	{ Castello-Branco	Castello-Branco (6,000).
Beira,	{ Guarda,	Guarda (3,000).
	{ Visen,	Visen, (10,000).
	{ Coimbra,	<i>Coimbra</i> (14,000), on the Mondego
	{ Aveiro,	Aveira (5,000).
Traz-os-Montes,	{ Villa Real,	Villa Real (5,000).
	{ Bragansa,	<i>Bragansa</i> (5,000).
Entre-Douro-e-Minho,	{ Oporto,	<i>Oporto</i> (100,000), on the Douro.
	{ Braga,	Braga (17,000), on the Cavado.
	{ Viana,	Viana (8,000), on the Lima.

The towns printed in italics are the capitals of the old provinces.

TOWNS.

Lisbon is very nicely situated on the N. bank of the Tagus, in the midst of delightful scenery. The part of the town built since the great earthquake is well laid out; but in the older parts of the city narrow streets are found. Among the public buildings, the royal palaces and

convents are the most striking. In 1755, a great earthquake destroyed most of the city, 60,000 inhabitants having perished.

Oporto stands on a hill about two miles from the mouth of the Douro. It consists of many broad streets with some narrow ones—11 public squares, a cathedral, theatre, mint, etc. Its immense wine-cellars are unequalled; wine being the chief export. About 30 English houses are in the city. In 1832 it was considerably injured by the troops of Don Pedro. Braga is the seat of the primate of Portugal, and has trade in hats, jewellery, and cutlery. Evora, a walled town, has manufactures of hardware and leather. Coimbra, picturesquely built on a hill, is the seat of the only university. It is an old town of some historical interest. Setubal is a flourishing port.

Surface.—Three chains of mountains enter from Spain—the *Sierra d'Estrella* (starry mountain range), rising about 7,000 feet above sea level, and including the hills Torres Vedras, of historical celebrity as the centre of Wellington's lines. A second range runs S. of the Tagus, and terminates at Cape Espichel. The *Sierra Morena* of Spain terminates at Cape St. Vincent, off which the Spanish fleet was defeated by Sir J. Jervis (1797), afterwards Lord St. Vincent.

Between these ranges extensive valleys lie, most of which are fertile; and along most of the rivers' banks the scenery is wild and picturesque. *Algarve* is, generally speaking, sandy. *Alemtejo* is dull, with a varied surface, sparsely peopled. *Traz-os-Montes* is wild and grand. *Estremadura* is finely diversified. *Beira* is rather mountainous. *Entre-Douro-e-Minho* is the best tilled, most thickly inhabited, and most fertile of the provinces.

Mountains and Rivers.—These have been already sufficiently referred to when treating of Spain. The only river which has its entire course in Portugal is the *Mondego*.

The **Productions** are similar to those of Spain. The *Minerals* include lead, copper, iron, salt, coal, slate, and marble. *Agriculture* is very much neglected, but crops of maize, rice, barley, oats, and flax are raised. Cattle are numerous, and mules and donkeys are used as beasts of burden. The *Forests* of Cork, oak, and pine are extensive. Its *Manufactures* consist of wine, tobacco, cigars, and a little woollens and linens. Very much fruit, oil, and wine are exported.

Railways connect the capital with Oporto, Badajos, Beja, and Evora, and some excellent roads have recently been made.

THE KINGDOM OF ITALY.

Italy may be considered as divided into three distinct parts—the plain of Lombardy, the Italian peninsula, and the islands. The length from the Alps to Cape Spartivento is 750 miles; and the breadth varies from 330 miles at the north, to about 100 miles in the centre, and 15 miles at the Gulf of Squillace. Italy is the central projection of Southern Europe. It has been often styled “The Garden of Europe,” from its delightful climate; and its shape closely resembles that of a high-heeled boot. It lies between the parallels of $36^{\circ} 35'$ and 47° N., and the meridians of $6^{\circ} 35'$ and $18^{\circ} 35'$ E.

Italy has gradually grown out of the dukedom of Savoy, to which was added, in 1720, the island of Sardinia, and the title of kingdom. In 1815, the province of Genoa was added; and in 1859, the Austrian province of Lombardy was ceded to “Sardinia,” which, in turn, gave up Savoy and Nice to France. In the following year, the duchies of Tuscany, Parma, and Modena, with the Kingdom of the two Sicilies,* and the papal provinces of Romagna, Umbria, and the Marshes, were added, and the capital, which had hitherto been Turin, was transferred to Florence. In 1866, the province of Venetia was ceded by Austria; and in 1870, the Papal States were all annexed. Finally, in 1871 (November), the king and parliament made Rome their residence.

The Plain of Lombardy, traversed by the Po for 250 miles, is extremely fertile, and thickly inhabited, well watered by this river and many streams which rush from the Alps and Apennines. This district, which is subject to malaria, is known under three names—*Maremma* in the N., *Campagna di Roma* in the centre, and *Pontine Marshes* in the S. Italy (peninsular) is traversed by the Apennines, by which it is divided into two slopes—one towards the Mediterranean, the other towards the Adriatic. The islands and islets will be described further on.

* This kingdom comprehended the S. of Italy with the island of Sicily, and the name was adopted in 1815, when Naples was incorporated with the island of Sicily.

The following is a popular division of Italy :—

Provinces.	Sq. miles.	Population.	Capital.
1 Piedmont*	12,777	3,000,000	Turin on the Po.
2 Genoa . . .	1,588	700,000	Genoa on the G. of Genoa.
3 Lombardy . .	8,644	2,998,181	Milan on the Olona.
4 Venetia . . .	9,995	2,603,099	Venice on the Adriatic.
5 Emilia . . .	8,600	2,146,567	Parma on the Parma.
6 The Marshes .	3,000	880,000	Ancona on the Adriatic.
7 Umbria . . .	3,600	513,019	Perugia on the Tiber.
8 Tuscany . . .	8,418	1,826,830	Florence on the Arno.
9 Naples . . .	33,607	6,787,289	Naples on Naples Bay.
10 Papal Provinces	4,555	723,161	Rome on the Tiber.
11 Sicily . . .	10,425	2,392,414	Palermo on Mediterranean.
12 Sardinia . .	9,359	588,064	Cagliari on the G. Cagliari.

The total number of divisions into which the above provinces are divided is 73—the names of these we think it unnecessary to give.

1. **Piedmont** is traversed by many branches of the Alps, which, to a great extent, form a natural barrier between it and France and Switzerland. It is traversed by the Po and many of its tributaries ; and produces maize, silk, wine, fruit, and olive.oil. The railway enters from France through the Mont Cenis Tunnel, completed 1871.

Turin (220,000), with a flourishing university, has extensive silk and velvet manufactures. It has some good palaces, libraries, churches, theatres, together with an observatory, and a botanic garden. It has frequently been attacked by the French and Austrians in their rivalry for power in Italy.

Casale (20,000) has some good public buildings, and manufactures of silk twist. It is a strong fortress.

Alessandria (40,000) is very strongly built, and has silk trade.

* *Pied*, "foot;" and *mont*, "mountain."

Marengo, 2 miles distant, is the place where Napoleon I. defeated the Austrians, 1800.

Novara (18,000), with a large grain and rice market, is the place where the Austrians defeated the Sardinians, 1849. **Vercelli** (18,000) and **Coni** (20,000) have good cathedrals. **Monclovi** (18,000), with silk and worsted factories, was the scene of a victory of Napoleon over the Sardinians, 1796. It was sacked by the French, 1799. **Aosta**, in an Alpine valley, is in the midst of pine forests, silver, copper, lead and iron mines. **Susa** (4,000) has many old ruins, with iron and marble quarries in the vicinity.

2. **Genoa** lies S. of Piedmont and Parma, and along the gulf of the same name. The chain of the Apennines curves through it a few miles from the sea. The soil is not very fertile, unless near the shore of the gulf; but on the hill-slopes fine forests and good pastures are found. The chief productions are silk, wine, figs, oil, oranges, lemons, citrons, aloes, marble, and slate. The people are hardy and industrious.

Genoa (130,000) stands in the form of a small circle around the harbour, with Apennines rising behind. The city is beautifully built, and contains fine palaces, gardens, churches, and convents, though many of the streets are narrow. It has a university and some good schools. There is considerable export of olive oil, silk, rice, etc. It was taken by the French in 1797, and given to Sardinia 1815. **Columbus** was born in Genoa. **Chiavari** (11,000) has manufactures of light willow chairs. **Rapallo** has lace and oil factories. **Spezzia**, on a fine bay, is the terminus of the cable over to Corsica. **Novi** (12,000), on the road from Genoa to Turin, is surrounded by mulberry trees. Here a sanguinary battle was fought, 1799, in which the French were defeated by the Austro-Russians. **Savona** (20,000) is an active port.

3. **Lombardy** stretches from Piedmont to Venetia, and from the Alps to the Po, and contains part of Lakes Como and Garda. Much dairy produce is raised, and exuberant corn crops. About seventeen millions of mulberry trees are reared for the silk-worm.

Milan (220,000) stands on a plain between the Adda and Ticino. It is equally remarkable for historical associations and architectural

beauty; its streets are wide, public buildings elegant, including a white marble cathedral, opera house, and a library. It is a great seat of the fine arts, and has many charitable institutions. The city has a lively and gay appearance. Its manufactures consist of fire-arms and hardware. In 1815, it was attached to Austria; but in 1859, the inhabitants drove the Austrians out of the town.

Pavia (30,000) is a decayed city on the Ticino, with a university. Here, in 1525, Francis I. of France was defeated by Charles V., and made prisoner.

Lodi (18,000), the seat of much trade in cheese, was the scene of a victory of Napoleon I. over the Austrians, in 1796. **Bergamo** (40,000) has silk trade, and a large annual fair. **Brescia** (40,000), with a cathedral, has many Roman antiquities. **Como** (18,000), on the lake, has silk and cloth trade. It is the birth-place of the younger Pliny. **Solferino** was the scene of a victory of the French over the Austrians, in 1859. **Cremona** (30,000), on the Po, has long been famous for its violins. **Monza** (20,000) has a palace, cathedral, and many public buildings. In one of its churches is the iron crown of Lombardy.

4. **Venetia** lies beyond the Mincio and the lower course of the Po, embracing some of the Alpine highlands, and bordering upon the Tyrol. Along the Adriatic, and for a considerable distance inland, the country is level, and much traversed by canals and rivers, which bring down much sediment. This district is very fertile, well-cultivated, and productive.

Venetia, once a famous republic, extended some distance inland; but not so far as the modern province. This republic consisted at first of Italian refugees, who in the fifth century fled from the scourges of Attila. In the middle ages it had become one of the first maritime and commercial powers, with extensive foreign possessions, including, at one period, the Morea, Ionian Islands, and Dalmatia. It was governed by a chief magistrate (doge=dux=duke), who became the minion of a few, and whose government was an example of tyranny and corruption. Napoleon I. overthrew its government in 1797, and in 1815 it was handed over to Austria, by which this province was ceded to Italy in 1866.

Venice (120,000) occupies a cluster of 72 islands in the midst of a lagoon, which gives it the appearance by night of a floating city. A railway bridge of 200 arches links it with the continent; and canals are used instead of streets, the gondolas, or boats, serving as carriages.

The real streets are very narrow. The tide rises two or three feet in the canals, often producing at its ebb a very disagreeable stench. The square of St. Mark, in the centre of the city, is the most admired by foreigners. An arsenal, dockyard, and palace, all little used, are imposing monuments of its former greatness.

Padua (55,000) is the seat of a university, in which Galileo was a professor; has a botanic garden, a cathedral, and a public library.

Vincenza (30,000) is very extensively engaged in the silk trade. It has also trade in corn, wine, linens, and woollens. **Adria**, though formerly on the coast, is now 13 miles inland. It gave its name to the Adriatic. The famous **Quadrilateral**, considered impregnable, consists of the fortresses:—**Mantua** (30,000), on an island in the Mincio, is entered by five gates, and is beautifully built. It has a cathedral, university, some elegant churches, two synagogues, and trade in silk, leather, and paper. Taken by the French, 1797; Allies, 1799. Near it Virgil was born. **Peschiera** (3,000) stands where the Mincio leaves lake Garda. **Verona** (30,000), also entered by five gates, is strongly fortified, and has good dye-works and silk-mills. A congress was held here of the European powers, in 1822, to prevent the encroachments of Russia on Turkey. **Legnago**, like Verona, stands on the Adige, and is the fourth fortress.

5. **Emilia** embraces the district between the Apennines and Adriatic. It includes the former duchies of *Parma* and *Modena*, with a portion of the once Papal States.

Parma (50,000) is a town of ancient date, with a university (suppressed 1831), and a cathedral, both of considerable merit.

Piacenza (30,000) stands on the Po, and is a handsome city, with good public buildings. **Modena** (20,000) has some good colleges and schools. **Reggio** (20,000) was the birthplace of Ariosto and Corregio. **Bologna** (110,000) is a large city connected with Florence by a railway; has trade in silk, glass, etc.; it has also a university, etc., etc. **Ferrara** (25,000) is a walled town, has a university, but little trade. **Ravenna** (50,000), though five miles inland, was once a seaport of importance. **Rimini** (30,000) is a port further to the S.

6. **The Marches** formerly belonged to the States of the Church. They lie between the Apennines and the Adriatic. The inhabitants are much engaged in agriculture.

Ancona (45,000) is an active commercial port, among whose inhabi-

tants are many Jews, Greeks, and Turks, all engaged in trade. It has some Roman remains.

Loreto has a magnificent church, which is much frequented by devotees. Urbino, the birthplace of Raphael, is now noted for its painted pottery, called Majolica.

7. Umbria is an inland district, occupying the upper basin of the Tiber, and traversed by the Apennines.

Perugia (18,000) stands 40 miles N. of Rome, with a university and some silk trade. A few miles distant stands the Lake of Sancedram, on whose shores Hannibal defeated the consul, Flavius, B.C. 217.

8. Tuscany lies between the Apennines and the Mediterranean, a distance of from seventy to eighty miles, level towards the sea, elevated in the interior, but generally very fertile. Here the best olive oil is profusely produced from the fruit of the olive, which is widely cultivated. Straw plait, for straw hats, is made extensively. The *Arno* and *Ombrone* are the chief rivers; and the low lands near their banks are subject to malaria. The island of *Elba* lies a few miles off the coast. It was the residence of Napoleon I. in his exile in 1814.

Florence (115,000), called "Florence the beautiful," is situated in the Garden-valley of the Arno, about fifty-five miles from its mouth. It is surrounded by a wall, and entered by eight gates. It possesses many fine galleries of the fine arts, libraries, and churches—a splendid cathedral, a ducal palace, etc. Its manufactures include silks, carpets, straw hats, porcelain, and jewellery. In the middle ages Florence was the seat of a powerful republic.

Arezzo (11,000), at the foot of the Apennines, once important, is now a decayed town. Leghorn (100,000), the port of Florence, is a town of great commercial importance. Ship-building is actively carried on, and great numbers of "Leghorn hats" are exported. Pisa (50,000) has some fine public buildings, but a declining trade. It is remarkable for its "leaning tower," which is 188 feet high, and diverges fifteen feet from perpendicularity. Lucca (65,000), with good baths, is in a pleasant country, and has trade in oil. Sienna (7,000) has a university and renowned marble quarries.

9. **Neapolitan Provinces** include the whole of the S. of the Peninsula, and with great natural advantages combine a fine climate and luxuriant productions; but the inhabitants are very poor and very inactive. The chief productions are maize, olives, wine, and fruit, with plenty of fish around the coast. It contains two of the four active volcanoes of Europe, *Vesuvius*, and *Stromboli* on an island near the coast. The island of *Ischia* lies off the bay of Naples.

Naples (450,000) is the largest city of Italy. It stands on a beautiful bay, the shores of which are studded with villas, olive and orange groves, vineyards and orchards, with nice plantations in the neighbourhood. The streets of the city are narrow, and the number of public edifices rather below the average. It is computed that 30,000 beggars are in Naples. The industry consists in silk manufactures and fishing.

Capua (9,000) is strongly fortified, on the coast.

Gaeta (13,000) is another stronghold on the coast, the refuge of the Pope in 1848, and of Francis II. in 1860, when he was driven from Naples. **Salerno** (29,000) is further N., on the coast; and **Reggio** (30,000) is the port for the island of Sicily. **Taranto** (27,000) is an old town, now decaying.

Brindisi (10,000) is now the port of embarkation on the way to India. Persons can go by train from Calais through the Mont Cenis tunnel to Brindisi, thence they take shipping for Alexandria. **Bari** and **Barletti** are also active ports. **Foggia** (35,000) is the centre of trade in corn, cheese, cattle, and wool. **Aquila**, the birthplace of Sallust, and **Nola**, where Augustus died, and where bells were first used in churches, are small towns. **Arpino** was the birthplace of Cicero.

10. **Papal Provinces**, now annexed to the kingdom of Italy, lie along the Mediterranean, stretching S. of Rome, as far as Gaeta, and north of it about the same distance. In the S. are the *Pontine Marshes*, very unhealthy, and much needing drainage. The industry is not much developed.

Rome (200,000), the capital of the Catholic world, and once the mistress of many nations, stands about 16 miles from the mouth of

the river. The walls extend outside the city, and have a circuit of 15 miles. The chief street is the Corso, which is long and wide; but many of the other streets are narrow and dirty. The public buildings are superb—the Vatican, the residence of the Popes, contains the richest collections of ancient and modern art, with a library and MSS. in all languages. Rome has a university, founded 1244, and an astronomical observatory. Hundreds of churches are scattered through the city—St. John Lateran, in which the Popes are crowned, being the metropolitan; but St. Peter's, resembling St. Paul's in London, being the most magnificent. The Catacombs, which were used by early Christians as places of refuge and concealment, are of great interest. The galleries of which they consist turn and twist in many directions; and some of the cells were used as places of sepulture. Civita Vecchia (10,000) is the chief port. Viterbo stands inland; Ostia, at the mouth of the Tiber, is nearly deserted. Tivoli and Terracina may only be named; the latter is in the S. of the province.

11. Sicily is, generally speaking, of a triangular shape, with many fine harbours around the coast, a fertile interior, a luxuriant vegetation, and delightful scenery in many places. The enormous volcano, Mount *Etna*, on the E., has good vegetation around the base, above which is a woody zone (oak, beech, chestnut), interspersed with some pastures. On the N. coast lie the *Lipari* isles, all of a volcanic nature. Sicily produces much sulphur.

Palermo (200,000) has wide streets, good squares, and handsome public buildings, a university, botanic garden, and an observatory. It stands in a fertile plain. In 1282 the "Sicilian Vespers" occurred here, when the inhabitants, on Easter Sunday, massacred the French garrison.

Messina (100,000) is a good commercial port, with good public buildings, and mountains in the background. Catania (70,000) stands near the base of Mount Etna, has silk trade and exports of grain. Marsala (30,000) has exports of wine. Bronte has paper-mills, and trade in almonds, oil, and wine. Syracuse is on a fine bay on the Straits of Messina.

12. Sardinia, a little larger than Sicily, is not so fertile, but is rather more mountainous. The vegetation is delightful. The vine, olive, orange, myrtle, arbutus flourish, and

form cover for the wild boar, deer, quail, and partridge. This island was one of the granaries of the old Romans. The inhabitants, though hospitable, are said to be indolent, crafty, and revengeful. On the N. is the Gulf of *Asinora*, with the small isles, *Caprera* and *Magdalena*; and on the S., the Gulf of *Cagliari*.

Cagliari (30,000) is on a hill in the S. of the island, with a good university, a cathedral, and many fine churches. All the inhabitants retire to sleep at noon, when the heat out of doors is oppressive. **Sassari** (27,000) has also a university, and trade in fruit and tobacco. **Oristano** is an active little port, with fine orange groves in the neighbourhood.

Mountains.—The Alps and Apennines have already been described; *Vesuvius*, near Naples, *Etna*, in Sicily, and *Stromboli*, on an island of the same name, are the chief volcanoes.

Rivers.—The *Po*, already described, has the following tributaries: on the left, the *Ticino*, which comes out of Lake Maggiore; the *Adda* from Lake Como; the *Oglio*, a tortuous stream, from Lake Iseo; and the *Mincio* from Lake Garda. On the right it receives the *Tanaro* and the *Trebia*. The **Brenta** and **Adige** are the most important rivers in Venetia. The **Arno** and **Volturno** are on the W. coast.

Coast Line, etc.—The coast line, though stretching a distance of at least 2,000 miles, is in many places not of much commercial importance, on account of the immense quantities of sediment carried down by many of its rivers; and the tides rising only a few feet, leave very few good harbours. On the Adriatic Coast, *Ravenna*, *Adria*, and other places, are now some miles inland. For want of a good tide the harbours are liable to become choked, particularly on the E. On the W. side good harbours are at *Genoa*, *Spezia*, *Gaeta*, *Leghorn*, and *Naples*. The Gulf of *Genoa*, though large, is of little depth, and the coast in this part exhibits considerable beauty and variety. The coast around the Gulfs of *Naples* and *Salerno* is very picturesque.

Minerals.—The minerals are valuable—marble, alabaster, alum, and sulphur, are the most important.

Education.—Great efforts are being made to spread education at present. A short time since only one in six of the inhabitants could read.

Railways.—The principal railway runs from France through

Mont Cenis, passes Turin, Novara, Milan, Piacenza, Parma, Modena, and from Rimini along the coast, passing Ancona, passing Foggia, Barletta, and Bari, whence one line goes to Brindisi, another to Taranto. On the W. of the Apennines a railway connects Naples with Salerno, proceeds northward to Rome, thence to Pisa, Florence, and Genoa.

San Marino, which is one of the most ancient states of Europe, has already been mentioned.

British Possession.—We possess the *Maltese Group*, lying fifty miles S. of Sicily, and consisting of *Malta*, *Gozo*, and *Comino*.

Valletta, the capital, is strongly fortified. This is the chief station of the Mediterranean fleet.

KINGDOM OF GREECE.

Greece, called by its ancient inhabitants Hellas, ranks in historical recollections above every other country, as the seat of liberty, the fine arts, literature, and eloquence, when other nations were inhabited by barbarous hordes.

“Greece, I hasten from thy shore ;
Thou’rt Greece, but living Greece no more.”

Greece, to which the Ionian Islands were annexed in 1863, regained its independence in 1832. It lies between the parallels of 36° 25', and 39° 30' N.; and 19° 36', and 26° E. longitude. It consists with the Ionian Isles of thirteen nomarchies. The surface is much covered with forests of pine, with oak in the upper regions. The vegetation is, in general, rich and varied ; but agriculture is still backward. Fruit, including vines, oranges, lemons, figs, almonds, citrons, currants, constitute an important industry. Cotton, silk, rice, wool, and corn, are also exported.

Greece is usually divided into three parts—*Continental* ; *Peninsular*, connected with the former by the Isthmus of Corinth ; and *Insular*, which consists of the *Ionian Isles*, the *Cyclades*, and the *Sporades*, together with Negropont.

Livadia Roumelia or N. Greece lies N. of the Gulf of Corinth. A chain of mountains, coming from Turkey, runs through it, and forms many valleys and river-basins.

Athens (40,000) is situated on two small streams; and with the exception of the Acropolis or citadel, and the Parthenon or temple of Minerva, has few traces of its ancient splendour. It contains a cathedral, a cumbrous royal palace, a university, and other public institutions. **Piræus** is the port of Athens.

Livadia (5,000) is considered the best town in the district. **Mesolonghi**, in the W., was besieged in the civil wars. Here Lord Byron died, 1824. **Lepanto** gives its name to the Gulf on which it stands.

The **Morea**, so called by the ancients from the resemblance of its shape to the leaf of a mulberry tree, is a peninsula terminating in three capes in the S.—*Malia* to the E., *Matapan* in the centre, and *Gallo* in the W. This district was called *Peloponnesus*. The interior is mountainous, and the shores level.

Napoli di Romania or **Nauplia**, at the head of a gulf of same name, is considered its capital.

Patras (20,000), on the G. of Lepanto, is the largest town, and has extensive foreign trade. **Navarino**, on the bay of the same name, is noted for the almost total annihilation of the Turkish fleet, 1827, by the British, French, and Russian squadrons—called the “untoward event.” **Argos** (10,000) is in the midst of cotton, vine, and rice plantations. **Corinth** (2,000) has few remains of its former greatness.

Insular Greece embraces the *Ionian Isles*, the island of *Eubœa*, the *Cyclades*, and most of the *Sporades*.

The *Ionian islands* comprehend seven large ones, with about 30 islets. In general they enjoy a delightful climate. Their surface is rugged, coasts irregular, with many barren rocks and heath-clad hills. Commerce is active.

Corfu, the most northerly of these islands, contains the capital of the group, *Corfu* (20,000), containing a motley population and active trade. The island has many olive groves.

Paxo has Port Gai for its capital.

Santa Maura has fine white cliffs.

Cephalonia, opposite the entrance to the Gulf of Corinth, has a black mountain, rising 4,500 feet, clothed with pine trees. It is noted for its grapes. Its capital is *Agostoli*.

Zante is noted for its profusion of aromatic plants, whose fragrance

in spring time is perceptible out at sea. It has long been famed for its currants. Capital—Zante (20,000).

Ithaca or **Thiaki** is mountainous, with deep ravines interspersed.

Cerigo, lying to the S. of the Morea, abounds with natural caverns, and produces excellent honey.

Eubœa runs parallel to the E. coast of N. Greece, for a length of 115 miles, being only 15 miles broad. A range of mountains runs along its E. shore, which is bold and rocky. It produces grain and wine in the low lands, with timber on the mountain sides. A bridge across the narrow strait connects it with the main land. Population 75,000, area 1,700 square miles. **Egripo** is a small town in the W.

The **Cyclades** lie in three rows, one of which seems to be a continuation of Eubœa, and one of Attica. These islands are in general rocky, bare, and naked. **Syra**, in the centre of the group, contains the capital, **Syra**, or **Hermopolis** (26,000), a busy and prosperous port. The other islands are:—**Siphanio**, very fertile; **Naxio**, the largest, has fruit-tree groves; **Zea** produces tanning from the acorn; **Thermia**, **Milo**, **Jura**, **Paro**, etc., may be named.

The **Sporades**, or “scattered” isles, are usually divided into the **Northern**, which are intersected by the 39th parallel; **Skyro**, **Scopelo**, and **Skiatho**, productive, well wooded and well watered, are the chief. The **Western Sporades** include **Salamis**, **Poron**, with a dockyard for the government; **Kuluri** is barren; **Ejina** fertile; **Hydra** contains the town of **Hydra** (10,000), considered the capital. It became very prosperous, and took an active part in the War of Independence. With an agreeable climate, it still is a favourite resort, and has active trade.

Minerals.—Gold, silver, copper, lead, and iron, are found. Salt and marble are found also.

Rivers.—None of the rivers of Greece are important. The **Acheloas**, rising in Mount Pindus, and flowing S. into the Ionian Sea, after a course of 130 miles, is the largest. The **Alpheus** is in the Morea, on the banks of which the Olympic games were practised. All the rivers are nearly dried up in summer.

Industry, etc.—The climate varies considerably — the heat in summer is sometimes excessive, and the cold in winter very intense, particularly on the mountains. In autumn and winter heavy rains fall. **Agriculture** is carried on with primitive rudeness, and is very backward. The pastures are much better looked after, and Arcadia is still, as of old, the land of shepherds. The most important productions are cereals, figs, maize, rice, currants, and silk, with cotton, madder, and tobacco. The **Manufactures** consist of coarse articles of cotton and wool for domestic use, together with embroider-

ing in gold, silver, and silk. Some ship-building, cutlery, saddlery, etc., is carried on. *Commerce* is very extensively carried on; and the country has naturally every advantage for its development. The Greeks are active and skilful sailors. The roads are miserable, rivers unnavigable, and no canals exist in the country.

Education is free to all; and, consequently, most of the learned professions are over-stocked. The education system includes a large number of elementary schools, about half as many higher schools, normal schools, etc.; and, finally, the national university at Athens, with faculties of theology, philosophy, law, and medicine.

TURKEY IN EUROPE.

Turkey in Europe is only a part of the Great Ottoman Empire. It lies S. of Russia and Austria, and N. of Greece, extending from 38° to 40° 20' N. latitude, and from 15° 40' to 30° E. longitude. It is washed by four seas—the Black Sea, Marmora, Archipelago, and Adriatic. The extreme distance from E. to W. is about 700 miles, and the distance N. and S. is about the same.

Strictly speaking this country is divided into 14 eyalets; but geographers usually distinguish the following provinces:—

Province.	Population, 1870.	Capital.
1. Roumelia, - -	1,300,000	Constantinople on the Bosphorus.
2. Thessaly, - -	2,600,000	Larissa on the Salambria.
3. Albania, - -	1,200,000	Janina on Lake Janina.
4. Herzegovina, -	500,000	Mostar on the Narenta.
5. Montenegro, -	130,000	Cettigne.
6. Bosnia, - -	600,000	Bosna-Seria on the Bosna.
7. Croatia, - -	300,000	Bamaluka on the Verbas.
8. Servia, - -	1,100,000	Belgrade on the Danube.
9. Bulgaria, - -	3,000,000	Sophia on the Isker.
10. Moldavia, - -	1,500,000	Jassy on the Bachlui.
11. Wallachia, - -	2,500,000	Bucharest on the Dimbowitza.

1. Roumelia is the most important and most beautiful

of the provinces. It extends from the Balkan mountains on the N., to the Ægean Sea on the S. (and corresponds to ancient Thrace and Macedon), in the direction of which is the general slope of the country. The climate of this province is delightful. The rivers *Maritza*, *Kalusu*, *Struma*, and *Vardar* drain it. On the S. are the Gulfs of Contessa, Mante Santo, Cassandra, and Salonika.

Constantinople (1,000,000), called by the Turks **Stamboul**, is nicely situated at the south entrance of the Bosphorus,* on a triangular promontory consisting of seven hills; an arm of the strait, called from its shape and beauty the "Golden Horn," running in for 5 miles, is a safe harbour. Two of the suburbs, *Galata*, the seat of commerce, and *Pera*, the residence of the foreign consuls and ambassadors, are a little distant. The city itself, though imposing when seen at a distance, on account of its mosques and minarets, consists of narrow dirty streets, through which many savage dogs wander about. The palace of the emperor is an imposing structure, surrounded by high walls, and entered by eight gates, one of which is called the *Sublime Porte*. The Mosque of St. Sophia, formerly a Christian Church, occupies the summit of one of the hills.

Adrianople (140,000), the second town, has a beautiful situation on the *Maritza*, and is the commercial centre of a large and rich territory.

Philippopolis (40,000) is a good inland town.

Gallipoli (50,000) is an active port on the Dardanelles, with manufactures of Russia leather, etc. It was the first town in Europe taken by the Turks (1356). **Cavilla**, a small port on the N. coast of Ægean Sea (Neapolis), was the landing place of St. Paul on his voyage to Macedonia. **Saloniki** (70,000), half of the population of which are Jews, is an active port with great trade.

2. **Thessaly** is a luxuriant plain, having the Pindus range on the W. In the N.E. is the Vale of Tempe, of renowned beauty, about five miles long, with high cliffs on either side. This vale is compared to Killiecrankie in Scotland. Here is also Mount Olympus, the ancient habitation of the gods, rising 9,754 feet.

* Bosphorus, i.e. the passage of the ox, or ox-ford.

Larissa (25,000) stands near the centre of the plain, surrounded by orange, lemon, and citron groves. It has a little cotton and silk-making, with Turkey-red dye works.

3. Albania extends from the Dinaric Alps to the Gulf of Arta, bordering upon the Adriatic and Ionian Seas. The surface is mountainous, the inhabitants warlike, courageous, and of a restless, haughty, and excitable disposition.

Janina (35,000) stands on a lake of the same name ; has manufactures of gold-lace, morocco leather, silks, and cottons ; but its trade is declining.

Scutari (20,000) has manufactures of fire-arms and cottons, and is improving. **Durazzo** is a small port on a rocky peninsula, of considerable note at the time of the Cæsars, under the name *Dyrachium*.

4. Herzegovina, in the N.W., is a rugged province, largely traversed by spurs from the Alps, and peopled by Slavonians, a rude and wild race, prone to insurrections.

Mostar is the only town worthy of the name.

6. Montenegro, a rugged district (the word meaning "black mountain"), is about the size of Westmoreland, and has up to the present maintained, to a great extent, its independence, among its wild fastnesses and shelving limestone rocks. It is governed by a hereditary prince.

Cettigne or **Cettinje**, the capital, is only a mountain village. Many cruelties have been committed here.

6. Bosnia is bounded on the N. by the Save, to which several rivers run, the Drina being its E. boundary. It is hilly and rugged, and little productive in crops, but has rich iron mines.

Bosna-Serai (60,000), the capital, stands among hills, and has very active trade. Trees abound in the streets, and above 100 mosques are scattered through the town.

Travnik is the residence of the governor of the province, and is fortified, as well as **Zvornik** on the Drina.

7. **Croatia** lies in the extreme N.W., and is traversed by mountain ranges. It resembles Bosnia in its inhabitants and physical features.

The only towns worth naming are :—

Bamaluca in the interior, **Novi** on the Austrian frontier, and **Krupa** in the West.

8. **Servia** lies along the S. bank of the Danube, and has a beautifully varied surface, in many places nicely wooded, the inhabitants living in remote villages among the mountains and plantations. From the plum, their most plentiful fruit, they make a kind of brandy, the common beverage. Vast herds of swine are reared in the woods.

Belgrade (30,000) is of great historical interest, as the most advanced of the Mahometan fortresses, where many a bloody struggle occurred. It has merely some transit trade on the river.

9. **Bulgaria** is a splendid province, extending from the Danube to the Balkan mountains, the surface sloping gradually towards the river. This province is exceedingly productive.

Sophia (30,000) is a handsome town near the Balkans, one of the passes of which it defends. It has trade in silk, leather, woollens, and tobacco.

Shumla also occupies an important strategic position, and defends the great eastern pass of the same mountain range. It has manufactures in metals. **Varna** is a fortified port on the Black Sea, where the allies encamped, 1854. **Widdin**, **Rustchuk**, and **Silistria**, are on the Danube, and have an active commerce. At **Silistria** the Turks repulsed the Russians in 1854.

10. **Moldavia**, with *Wallachia*, are called the *Danubian Principalities*, and more recently *Roumania*. They are only nominally subject to Turkey.* **Moldavia** lies partly between Austria and Russia, and is a great grain-producing district.

* They conjointly pay a tribute to Turkey of £40,000 per annum ; and the Porte confirms the election of their prince. The capital is **Bukhars**

Jassy (80,000), near the Pruth, stands on a hilly slope, has many churches and synagogues, one-half of its inhabitants being Jews. It is a great agricultural mart.

Galatz is a very active port on the Danube, with immense exports of grain. The position is unhealthy. **Ismail** is a fortified town nearer the mouth of the river.

11. Wallachia lies S. of the Carpathians and N. of the Danube, and is very similar in climate and productions to Moldavia.

Bukharest (100,000) is irregularly but picturesquely built, but said to be the most dissolute town in Europe; all classes are inveterate gamblers.

Islands.—The islands belonging to Turkey consist of *Thaso*, *Samothraki*, *Imbros*, *Lemnos*, and *Candia*.

Candia (ancient *Crete*) extends about 160 miles from E. to W., and in some places is only 10 miles wide. It is traversed by a chain of mountains, in which is mount *Ida*, a mass of gray limestone, 7,000 feet above sea level, said to have been the residence of Jupiter in his youth. *Candia* is very fertile, well watered, and productive of grain and fruits, wax, and honey. The population is about 160,000, most of whom are Greeks.

Candia (12,000) was fortified by the Venetians when they possessed the island. *Retimo* and *Canea* are mere villages.

Coast.—The coast, particularly on the Archipelago, is very irregular. Here it contains several gulfs, which form good roadsteads in most instances.

Mountains.—A continuation of the Alps runs N. of Herzegovina and Albania, and forms two chains at the N.E. point of the latter province—one going S. forms the boundary between Albania and Roumelia, sends spurs out E. and W., and forms the northern boundary of Greece; the other forms the boundary between Servia and Roumelia, connects itself with the Carpathians at the iron gate of the Danube, proceeds E. under the name *Balkan*, which winds S.E. to the neighbourhood of Constantinople, as well as proceeding direct to the Black Sea. From the *Balkan* range the *Despoto* mountains run S., but near the Gulf of Lagos turn N.E., and end near Adrianople.

Rivers.—The great *Balkan* range divides Turkey into two basins—the N., or *Danube*, and the S., or Archipelago. The *Danube*, which

enters the sea by many mouths, has many Turkish tributaries. On the N., the *Pruth*, which rises in Galicia, flows in a deep valley past Czernowitz, passes S. through Moldavia, and enters the Danube twelve miles below Galatz, after a course of 500 miles. The *Sereth*, which joins the Danube a little above Galatz, runs parallel with the former, and receives several smaller streams. The *Aluta*, and several other rivers water Wallachia. On the S. are, in Bulgaria, the *Taban*, *Jantra*, and *Isker*; further W., the *Morava* and *Drina*, *Verbas*, and *Unna*. Flowing into the Archipelago, the *Maritza* is the most important. It rises in the W. of Roumelia, passes Philippolis, is joined by the *Tunja* at Adrianople, and proceeding S., enters the sea at Enos. The *Struma*, further W., flows into the Gulf of Contessa, and the *Vardar*, into the Gulf of Salonika. A few small rivers flow into the Adriatic and Ionian seas.

Inhabitants.—The following are the principal tribes that inhabit Turkey:—The *Slaves*, which include the Servians, Bosnians, Croats, Montenegrins, and Dalmatians, in all about six millions; the *Greco-Latins*, including the Greeks, Roumanians, and Albanians, about six and a-half millions; the *Armenians*, *Jews*, etc., about three millions. The Turks are proud and haughty, indolent in peace, but active in war; hospitable and showy, and in religion fanatic. They retain most of the manners and customs of the East.

The following is an estimate of the numbers of the various religious sects in Turkey:—Mussulmans, four and a-half millions; Greeks and Armenians, ten millions; Catholics, three-quarters of a million; Protestants, Jews, etc., a quarter of a million.

Education.—Each village and each quarter in a city must maintain a primary school. Preparatory schools are of a higher class; and in each chief town of a district a school still more important, called a Lyceum, is kept. Training schools for teachers are in operation; and finally, the national university is in Constantinople. Many wealthy Turks, however, send their sons to be educated in France or Britain.

Industries, etc.—Although the soil is very fertile, yet the system of agriculture is so very backward that much progress has not yet been made. The commerce is increasing. The exports, including gall-nuts, oils, goatskins, figs, etc., are of considerable importance.

Railways connect Varna with Rustchuk and Kustendji with Tchernavoda—two ports on the Black Sea with two on the Danube.

EMPIRE OF AUSTRIA.

This, the most ancient empire in Europe, lies S. of Saxony, Prussia, and Russia ; E. of Bavaria and Switzerland; and N. of Turkey and the Adriatic. It extends 785 miles from E. to W., and about 600 from N. to S.

Generally speaking, it lies between the parallels of 42° and 51° N., and the meridians of 8° 20' and 26° 20' E. longitude. It was formerly the leading German state, but since 1866 it has been excluded from the affairs of Germany.

With the exception of the Adriatic, no sea washes Austria. The surface exhibits great variety. Many small lakes are in some districts. Except in the Hungarian swamps, the climate is healthy. Among the Alps, more rain falls than in any other European country. The plains on the Danube have been referred to.

Austria contains the following provinces :—

Provinces.	Area.	Population.	Capital.
1 Lower Austria,	7,658	1,762,784	Vienna, on the Danube.
2 Upper Austria,	4,634	719,427	Linz, on the Danube.
3 Styria,	8,674	1,091,647	Gratz, on the Mur.
4 Carniola,	3,858	475,437	Laybach, on the Save.
5 Carinthia,	4,007	342,656	Klagenfurt, on the Drave.
6 Tyrol,	11,321	878,733	Innsbruck, on the Inn.
7 Salzburg,	2,768	146,870	Salzburg, on the Salza
8 Bohemia,	20,763	5,153,602	Prague, on the Moldau.
9 Silesia,	1,988	493,825	Troppau, on the Oppa
10 Moravia,	8,579	2,009,572	Brunn, on the Schwarza.
11 Galicia,	30,320	5,147,021	Lemberg
12 Bukowina,	4,037	516,418	Czernowitz, on the Pruth.
13 Coast Districts,	3,085	566,666	Trieste, on the Gulf of Trieste.
14 Hungary,	82,867	10,814,206	Buda-Pesth, on the Danube.
15 Croatia,*	7,445	962,031	Agram, on the Save.
16 Transylvania,	21,222	2,095,215	Klausenburg, on the Szamos.
17 Dalmatia,	4,942	446,660	Zara, on the Adriatic.
18 Military Frontier,	12,956	1,131,502	Peterwardein, on the Danube.

* And Slavonia.

1. **Lower Austria**, containing the capital, constitutes with Upper Austria an archduchy, which extends on both sides of the Danube, and formed the nucleus of the empire, to which the other provinces were gradually attached.

Vienna (640,000) stands on the S. of the Danube, and is a splendid city, with dwelling houses of vast extent which accommodate several families, an extensive commerce, with manufactures of silks, lace, hardware, porcelain, musical instruments, carriages, and paper. It contains barracks, libraries, museums, and is surrounded by fortifications. The old wall has been thrown down, and the suburbs are regularly built with wide streets. The city is well fortified.

The principal interest in Vienna consists in its historical associations. In 1529 it was unsuccessfully besieged by the Turks under Soliman the Magnificent; and again in 1683 by the Turks, who were defeated under its walls by John Sobieski, afterwards king of Poland. In 1815 the Congress sat here that settled the state of modern Europe.

Schonbrunn, about 2 miles distant, contains the emperor's palace.

Nearly opposite Vienna are the villages of **Aspern**, **Esling**, and **Wagram**, remarkable for fierce battles between Napoleon I. and the Austrians. Higher up the river is the Castle of *Dürrenstein*, where Richard I. was imprisoned on his return from the Crusades.

2. **Upper Austria** is a rather rugged district, with fine woods on the hill-slopes, and romantic valleys between the elevations. The river Ems divides it from Lower Austria.

Linz (30,000), with a capacious market-place, stands on the S. bank of the Danube. The town is surrounded by many snow-clad mountain-tops.

Ebensee has extensive salt works; and **Steyer** (10,000), on the Ems, has manufactures of cutlery.

3. **Styria** is a mountainous district further S., with rich iron mines of the best ore, and many medicinal springs. The Save is its S. boundary, and the Drave runs through the centre. Forests are in the highlands. The inhabitants are quick and athletic.

Gratz (60,000), on the Mur, is an important mercantile city, with a university, and some hardware manufactures.

Eisenerz is in the midst of the iron mining district.

4. **Carniola** is much overspread by spurs and chains from the Alps, and watered by the Save. It contains a splendid mine of quicksilver at Idria, and the peculiar lake *Zirknitz* already referred to in this treatise.

Laybach (17,000) is an episcopal city, remarkable for a Congress in 1821 of most of the European powers.

5. **Carinthia**, further N., is chiefly drained by the Drave. Its surface is also mountainous, and the most prolific lead mines are found here. An important aromatic herb, called *Speik*, which gives a flavour to tobacco, is greatly exported from this country. Cattle rearing is an important industry.

Klagenfurt (15,000) is an active, industrious town, with silk, cloth, and muslin factories. It stands in the midst of delightful scenery, and was the scene of a battle in which the Turks were defeated, in 1492, by the Christians.

Bleiberg is in the centre of the lead mines.

6. **Tyrol** lies E. of Switzerland, of the mountainous character of which it fully partakes, consisting of snow-capped peaks, narrow valleys, glaciers, and glens. The inhabitants are good marksmen and fond of field sports.

Innsbruck (14,000) is a small town, in a valley surrounded by high mountains, and has some transit trade. Here the gallant Hofer drove out the French, 1809.

Hall has salt mines. **Trent**, on the Adige, was the seat of the celebrated Catholic Council, 1545 to 1563. **Brixen** and **Botzen** partake greatly of the nature of Italian towns.

7. **Salzburg**, a small, picturesque province, lies on the Bavarian frontier. It is very mountainous, and is traversed by the River Salza, which runs through a nice valley. Salt mines are here actively worked.

Salzburg (10,000) is surrounded by mountains covered with verdure. It has a beautiful cathedral, and was the birthplace of Mozart.

Gastein, a small town with mineral springs, was the place where Austria and Prussia made a convention in reference to the Danish Duchies, 1865. **Durrenberg** has salt mines of considerable note.

8. **Bohemia**, in the N. W., is a great plateau walled in by mountains, with a mild climate and a productive soil. It has long been noted for its ornamental glass. The surrounding mountains consist of the *Böhmerwald* or Bohemian Forest on the S.W., the *Erzgebirge* on the N.W., *Riesengebirge* on the N.E., and the Moravian Mountains on the S.E. Many mineral springs are scattered over the country.

Prague (160,000) stands near the centre of the country, on the Moldau. It has the palace of the old Bohemian kings, and a university. It is the chief commercial and manufacturing town of the kingdom. In 1757 the "Battle of Prague" resulted in the defeat of the Austrians by Frederick the Great of Prussia.

Seldlitz gave its name to the well-known effervescent powders.

Konnigratz, in the N.E., was the scene of the defeat of Austria by Prussia, 1866, called the battle of Sadowa. **Carlsbad**, an aristocratic watering-place, has hot springs. **Toplitz**, near the Saxon frontier, has also warm springs, much esteemed. **Pilsen** is in the S.W.

9. **Silesia** adjoins the Prussian province of the same name, and is to a great extent mountainous.

Troppau is a strongly fortified town, which is noted for the manufacture of fire-arms.

10. **Moravia** is a fertile and highly-productive region in crops of flax, hemp, and grain. It is separated from Silesia by the Sudetic mountains.

Brunn (60,000), with extensive woollen factories, has been called the "Austrian Leeds," and contains silk, leather, cotton, linen, dyeing, and glass works.

Olmütz (14,000), strongly fortified, is the seat of a university, and has good baths. **Iglau** (10,000) has also woollen factories. **Austerlitz**, the scene of Napoleon I.'s great victory over the Russians and Austrians in 1805, is a little E. of Brunn.

11. **Galicia** lies N. of the Carpathian mountains, and formerly belonged to Poland. It is one of the greatest grain countries in the world. On the W. it is drained by the Vistula; on the E. by the Dniester.

Lemberg (75,000) is the seat of a university, and a library rich in Polish literature. Most of the wealthy merchants are Jews.

Cracow (41,000), now attached to this province, was once the capital of Poland. In 1815 it was made an independent republic, which was absorbed by Austria in 1846. **Wieliczka**, near it, has celebrated salt mines which have been worked for centuries. **Galicz**, the oldest town, gave its name to the province.

Brody (18,000) is the great *entrepot* of the grain trade with Russia and Turkey. It is near the Russian frontier.

12. **Bukowina** is a forest region on the S.E., which was ceded by Turkey in 1777. It is traversed by the Sereth and Pruth, and by the Carpathians on the S.

Czarnowitz (26,000), the capital, is a small town with manufactures of clocks and hardware. A railway connects it with Lemberg and Cracow.

13. **The Coast Districts** include the peninsula of Istria, and several islands to the E. This region penetrates inland as far as Carinthia, is generally mountainous, and is often called *Kustenland*.

Trieste (110,000) is the chief seaport of Austria, and is often called, from the activity of its trade, the "southern Hamburg." It is a free port.

Goritz (13,000), on the Isonso, has some trade, and is on the railway between Venice and Trieste.

14. **Hungary** is almost all one vast plain, traversed by the *Danube* and its tributary the *Theiss*. The soil is in general fertile, though in some places marshy. A few barren tracts, called *Pusztas*, are incapable of cultivation. Soda lakes are scattered over them. The soil in many places is fertile, and the mineral wealth abundant. Wine is extensively exported.

Buda-Pesth (170,000) consists of two towns, one on each side of the river, which is here 2,000 feet wide and 27 deep, with a strong current. Buda has hot springs. This city has a university, and is the great centre of the trade of the country with the Danube and the interior.

Komorn (11,000) is a strong fortress on the Danube. **Presburg** (43,000), on the W. border, was once the capital of Hungary. **Gremnitz** is in the midst of gold, and **Schemnitz** (13,000) in the midst of silver mines. The latter has a famous mining school. **Tokay** is the centre

of the Hungarian wine trade. **Debreczin** (36,000) and **Ketskemet** (40,000) have very large fairs. **Szegedin** (60,000), on the Theiss, has active commerce and manufactures. **Neusatz** is the centre of trade with Turkey. **Raab** (17,000), on the river of the same name, was the scene of a battle between the Turks and Christians. Here the French defeated the Hungarians in 1809. **Temeswar** (12,000) is the capital of the Banat district. **Erlau** is in the vine district.

15. **Croatia**, in the S.W., is a rugged district, S. of the Drave, and with *Slavonia* forms a province.

Agram (14,000), in Croatia, is the capital, and stands pleasantly among hills and forests. **Flume** (15,000) is a small commercial town on the coast. **Essek**, the capital of Slavonia, stands on the Danube.

16. **Transylvania**, lying E. of Hungary, is much covered by the Carpathians, and contains much wild scenery. Its winters are long and severe; its summers short and warm. It has considerable mineral wealth. Swine are fed in the woods in great numbers.

Klausenburg (20,000) is a walled town, entered by six gates, and has manufactures of woollens, china, and paper.

Hermanstadt (18,000), the military capital, is strongly fortified. **Kronstadt** (25,000) is near the Turkish frontier.

17. **Dalmatia** is a narrow rugged district, lying along the eastern shore of the Adriatic, which has here numerous islands. Much of it is covered by off-shoots from the Dinaric Alps. Off *Lissa*, an island, was the scene of the defeat of the Italian by the Austrian fleet, 1866. The inhabitants of Dalmatia are poor and idle.

Zara (18,000), the capital, is strongly fortified, and is situated on a good harbour.

Ragusa is a strongly fortified port, with increasing trade. **Cattaro** is the most southerly port in the province. **Spalato** (15,000) has vast remains, showing its former importance.

18. The **Military Frontier** extends along the Turkish border for about 500 miles, with a breadth varying from 50 to 10 miles. Guard-houses are arranged at regular intervals, with occasional fortresses. The inhabitants are

trained to war, and are expected to take the field at a very short notice. This arrangement is due to Prince Eugene, who inaugurated it when the Turks were formidable.

Peterwardein (3,000), a small town, is a strong fortress, near which Peter the Hermit marshalled the first Crusaders.

Semlin (1,300) is the Christian fortress corresponding to the Turkish fortress, Belgrade. It is a small place where steamers stop. **Orsova** is at the iron gate of the Danube.

Mountains.—The different branches of the Alps which enter Austria have been described. Two passes exist in the Austrian Alps—the *Brenner*, between the valleys of the Inn and Adige; and the *Stelvio*, between the basin of the Inn and that of the Adda, which is the highest carriage road in Europe, being 8,850 feet high. The *Bohemian* mountains, already mentioned, and the *Sudetic*, form a rampart between Austria and the rest of Germany.

Rivers.—Austria contains a portion of the following large rivers—the Danube, Elbe, Oder, Vistula, Dniester, and Adige. Most of these have been already mentioned in detail. The most important tributary of the Danube is the *Theiss*, which, with its tributaries, the *Szamos*, *Koros*, and *Maros*, drains the greater part of Hungary. The *Gran*, *Waag*, and *March*, are northern tributaries further W. The *Save*, *Drave*, and *Raab* are southern tributaries. In Bohemia, the *Moldau* is the chief river; in Galicia, the *Dniester*; in the Tyrol, the *Inn*. The *Traun* flows 110 miles, and enters the Danube near Linz.

Lakes.—The two large inland lakes have been described at p. 69.

Coast Line.—On the Adriatic are the bays of Fiume, Cattaro, and Trieste, all of which are much secluded from the remaining Austrian provinces by large mountains. A number of islands fringe the coast.

Minerals.—In minerals Austria is exceedingly productive. Its richest gold mines are in Transylvania, in which some forty mines of this metal are worked. Silver is obtained in abundance from the mines in Hungary. Copper is found in various provinces; lead is also widely distributed; iron, though not extensively worked for want of fuel, is produced of the very best quality. Tin is raised in Bohemia; and quicksilver in Idria, in Carniola; zinc in many places; salt in Galicia. Many precious stones are obtained in Bohemia and Hungary. Mineral springs are very numerous.

Manufactures.—Linen is confined to Silesia, Bohemia, and Moravia; woollens to the two last-named provinces. The other manufactures consist of silk, hardware, cotton, cigar-cases, etc. Wine is largely exported from Hungary.

Inhabitants.—Six distinct races inhabit this empire, which, owing to their jealousies and disagreements, has been often subject to dangerous political agitation.

Nearly one-half the whole population are *Slaves*; the *Czechs* number in Bohemia 3,200,000, generally occupying the centre and the East. Of the population of Prague three-fifths are Czechs. The *Germans* dwell chiefly in the archduchy, in Styria, and the Tyrol, and include about two millions of the commercial and educated classes in Bohemia. The *Magyars*, who form the dominant race in Hungary and Transylvania, number more than five millions. The *Poles* are found in the provinces of Silesia, Galicia, and Bukowina. The *Italians* are in the Tyrol and the coast districts. The *Valaks* are in Silesia and Moravia, and speak a corrupt Latin.

Railways.—Two lines run across Bohemia, one through Prague, the other through Pilsen, towards Vienna, whence proceed lines to Budapesth on both sides of the Danube. From Vienna a line runs S. to Trieste; another runs from Gratz to Essek along the Save. From Pesth many lines run through Hungary in various directions.

THE GERMAN EMPIRE.

Germany* is bounded on the N. by the N. Sea, Denmark, and the Baltic; on the E. by Russia and Austria; on the W. by Holland, Belgium, and France; and on the S. by Switzerland and Italy. Generally speaking, it extends from 45° to 50° N. latitude, and from 6° to 19° E. longitude.

The surface is naturally divided into four physical regions. (i.) The low plain in the N., extending from the confines of Holland to Russia, about 600 miles, with a gradual slope northwards. In some places this plain is little productive, but along the river banks a deep alluvial soil is found. (ii.) The central mountain region, including the Harz, Erze, Sudetic, Oberwald, etc. (iii.) An elevated plain, which includes the Bavarian table land, and extends 180 miles from N. to S. by 120 broad. (iv.) The rugged Alpine district in the south, already sufficiently described under the *Alps* and Austria.

* The term Germany is usually applied to that district of Central Europe in which the German language and race prevail, and includes, besides the provinces tabulated below, some Austrian provinces and some Swiss cantons.

At the treaty of Vienna, in 1815, Germany was re-organized as a number (39) of confederate states, with Austria at their head, and Frankfort-on-the-Main as their capital. After the defeat of Austria by Prussia, in 1866, the former was excluded from all participation in German affairs, and Germany was reconstituted into the North and South Germanic Confederations, with Prussia at the head of the former, and Bavaria at the head of the latter. The river Main formed the boundary line, and Hanover, with many other states, were incorporated with the North. After the German successes in France, 1870, the German empire was revived, and at the solicitation of plenipotentiaries from all the German states, William, King of Prussia, was installed Emperor of Germany, at Versailles, 1871, and this dignity declared hereditary in the Kings of Prussia. In addition to the numbers given in the following table, it is computed that 12 millions of Germans dwell in the surrounding states, chiefly in the provinces of Austria just referred to.

NORTH GERMANY.

States.	Sq ua Miles.	Population, 1867.	Capital.
1. Prussia, - - -	135,778	24,039,668	Berlin on the Spree.
2. Saxony, - - -	5,779	2,423,401	Dresden on the Elb
3. Mecklenburg-Schwerin,	5,189	560,618	Schwerin.
4. Saxe Weimar, - -	1,403	283,044	Weimar.
5. Mecklenburg-Strelitz, -	908	98,770	Neu-Strelitz.
6. Oldenburg, - - -	2,470	315,622	Oldenburg.
7. Brunswick, - - -	1,425	302,792	Brunswick on the Ocker.
8. Saxe Meiningen, - -	914	180,335	Meiningen.
9. Saxe Altenburg, - -	510	141,426	Altenburg.
10. Coburg and Gotha,	764	168,735	Gotha.
11. Anhalt, - - -	1,026	197,041	Dessau.
12. Schwartz Rudolst,	371	75,116	Rudolstadt.
13. Schwartzburg Sond.	328	67,533	Arnstadt.
14. Waldeck, - - -	432	56,807	Arolsen.
15. Reuss Schleitz, - -	144	44,000	Gera.
16. Reuss Greiz, - - -	320	88,000	Greiz.
17. Schaumburg Lippe,	172	31,186	Bukeburg.
18. Lippe Detmold, - -	438	111,352	Detmold.
19. Lubeck, - - -	107	48,538	Lubeck.
20. Bremen, - - -	74	109,572	Bremen, on the Weser.
21. Hamburg, - - -	155	305,196	Hamburg, on the Elbe.
22. Hesse, - - -	1,279	257,479	Mainz.

PRUSSIA.

Prussia extends from France on the W. to Russia on the E., and consists of vast plains, bordered on the S. by mountains, and drained by several large rivers. It lies between the parallels of $40^{\circ} 7'$ and $55^{\circ} 52'$ N. latitude, and between the meridians of $5^{\circ} 50'$ and $22^{\circ} 50'$ E. longitude. No large river has its source in Prussia, although few countries are better watered with navigable streams.

The following table gives the provinces of Prussia, with an estimate of the population in 1871.

Provinces.	Square miles.	Population.	Capital.
1 Prussia Proper,	25,047	3,090,960	Konigsberg, on the Pregel.
2 Posen,	11,401	1,537,338	Posen, on the Warta.
3 Brandenburg,	15,609	2,716,022	Berlin, on the Spree.
4 Pomerania,	12,260	1,445,635	Stettin, on the Oder.
5 Silesia,	15,771	3,585,752	Breslau, on the Oder.
6 Saxony,	9,794	2,067,066	Magdeburg, on the Elbe.
7 Westphalia,	7,823	1,707,726	Munster, on the Aa.
8 Lower Rhine,	10,358	3,455,483	Cologne, on the Rhine.
9 Hohenzollern,	457	64,632	Sigmaringen, on the Danube.
10 Jahde,	5	1,778	Varel.
11 Hessen Nassau,	1,811	1,379,745	Wiesbaden, near the Rhine.
12 Hanover,	14,855	1,937,637	Hanover, on the Leine
13 Schleswig-Holstein,	6,755	981,718	Flensburg.
14 Lauenburg,	403	49,973	Lauenburg, on the Elbe.

1. **Prussia Proper**, the most eastern province, lies along the Baltic shores, with a flat surface, interspersed with lakes and lagoons. It embraces the lower basins of the Vistula and Niemen. The winters are severe. Excellent wheat is produced in great quantities. It is usually divided into East and West Prussia, the former having many lakes.

Königsberg (100,000) is a splendid commercial mart, with *Pillau* as its port. It stands on seven hills, has seven gates and seven bridges. It has a great number of public squares, a university, a library, and an observatory. Here Kant, the philosopher, resided. Near it are the battle-fields of *Eylau* and *Friedland*, two victories of the French, 1807.

Dantzic (85,000), on the Vistula, is a great fortress, with narrow streets, but handsome suburbs. It ranks as one of the greatest grain shipping ports, and has also trade in timber, flax, etc. It has large granaries, filled with corn, on an island, where no one is allowed to live, as a precaution against fire. It was taken by the French, 1807, and held until 1813.

Memel (20,000), whose red deal is well known, is the centre of the Baltic timber trade. It is closed during the winter months by the ice. **Thorn**, on the Vistula, was the birthplace of the astronomer Copernicus. **Elbing** (25,000) is a flourishing port, with an extensive grain trade. **Marlenburg** has an old castle, once the residence of the Teutonic knights. **Tilsit** (15,000) stands on the Niemen. Here occurred the celebrated interview between Napoleon I. and Alexander of Russia, with the intention of dividing Europe between them, in 1807. **Braunsberg** is near the *Frische Haff*.

2. **Posen** borders on Russian Poland, and is a rich inland province, drained by the *Warta*. It is an agricultural province, with some pine-woods, which give timber; but on the whole has a dreary appearance.

Posen (50,000), with a good cathedral, has trade in corn, hemp, flax, hops, and tobacco. A great number of Jew pedlars frequent it.

Bromberg (22,000) is the second town, and stands on the railway from Berlin to Warsaw. **Gnesen** is noted for a great cattle fair, lasting two months.

3. **Brandenburg**, an inland province, is chiefly watered by the *Oder*. A great deal of the surface, which is a plain, is not very fertile, unless what borders on the rivers and lakes. Corn, flax, hemp, fruit, and vegetables, are the chief productions.

Berlin (700,000), the capital of Prussia, of North Germany, and of the commercial league called the *Zollverein*, is a splendid city, standing in a fine plain. Here the *Spree* is crossed by 37 bridges. The city is remarkable for wide streets and spacious squares—one of its

thoroughfares, extending from the Brandenburg Gate to the royal palace, has four rows of trees, and hence is called *Unter den Linden*, "beneath the lime trees." Among the public buildings may be named, the museum, university (of great celebrity), opera house, arsenal, and academy of arts. The manufactures consist of woollens, cottons, silks, paper, porcelain, and jewellery.

Potsdam (40,000), on the Havel, is one of the chief stations of the army. It has a royal palace, and picturesque environs. It is the birthplace of Humboldt, the celebrated traveller and geographer. **Brandenburg** (20,000) is an industrious town, which owes its prosperity to the French refugees. **Frankfort** (30,000) is a pleasantly situated town, with three great fairs yearly, and some woollen manufactures. *Kunersdorf*, in the vicinity, was the scene of a victory over Frederick the Great, by the Austro-Russians, 1769.

4. **Pomerania**, lying along the S. shores of the Baltic, for about 200 miles, is pretty fertile, though much covered by forests. The surface is low, the climate cold and humid. It has the lower course of the Oder, near which river it is fertile, but sterile in many other places. The island of *Rugen* lies off the coast.

Stettin (65,000) is a flourishing shipping port, with great corn, wool, and other exports. It is the birth-place of two Russian empresses, Catherine and Maria.

Stralsund (20,000), on the coast opposite the island of Rugen, is a commercial town strongly fortified. **Barth** is also an active port. **Griefswald** (16,000) has a university. **Putbus**, with sea bathing, and **Bergen**, are on the island of Rugen.

5: **Silesia**, which formerly belonged to Austria, is drained by the Oder, and much covered by mountains. It is rich in coal, iron, zinc, and lead, and possesses a large amount of prosperity, combining, with rich agriculture, extensive linen manufactures, and mining industry.

Breslau (150,000) is a splendid town, with great industry and much wealth. It has more than 100 distilleries, and is a great corn and linen mart, besides having the greatest wool market in Europe. Its university was founded 1702. A little to the N. is *Lissa*, where Frederick the Great defeated the Austrians, 1756.

Glogau, on the Oder, is fortified. **Goerlitz** (20,000), on the same river, has cloth factories.

6. **Saxony** is a rich and thickly inhabited province, which produces great quantities of wool. It is watered by the Elbe, and contains the highest of the Harz mountains, the *Brocken*. This mountain district is rich in minerals.

Magdeburg (80,000) is a beautiful city, strongly fortified, and is a great railway centre. In 1631 this flourishing city was taken by the Austrian general, Tilly, when it is certain 30,000 of its inhabitants were butchered.

Halle (40,000), on the Saal, has a university, and prolific salt mines in the neighbourhood. *Lutzen* was the scene of a victory of Gustavus Adolphus, 1632, in which he was slain. Here Napoleon defeated the Allies, 1813. *Eisleben*, with manufactures of potash and tobacco, and copper and silver mines, was the birth-place of Martin Luther. **Erfurt** (30,000) has imposing fortifications, and was long the residence of Luther. **Wittenberg**, on the Elbe, has the tombs of Luther and Melancthon, and was the birth-place of Kepler, the astronomer. **Naumburg** is noted for its perfumery and millinery.

7. **Westphalia** is level in the N., and hilly in the S. In the former district heaths, morasses, and scanty forests are found. Agriculture and mining are the principal industrial pursuits ; corn is much grown. The minerals include copper, lead, iron, and marble. The manufactures include linen, cotton, silk, and paper. This province has long been celebrated for its hams, cured over fires of juniper twigs, which gives them a delicious flavour.

Munster (27,000), on the Ems, is a well-built town, remarkable for the vagaries of John of Leyden and his followers, 1535. Here the "Treaty of Westphalia" was signed, 1648, which ended the Thirty Years' War.

Minden, on the Weser, gave its name to a battle, 1759, in which the British defeated the French. **Hamm** is a manufacturing town and a great railway centre. **Iserlohn** is noted for copper, iron, and brass works. **Bielefeld** has linen trade.

8. The **Rhine Province** lies S. W. of Westphalia, and is intersected by the great river of which the Germans are so proud, and near the banks of which the population is chiefly congregated. In the Rhine and Moselle valleys the

climate is delightful, and wine is a remunerative product; but at a distance some dreary land is found with a bleak climate and a barren soil.

Cologne or **Köln** (120,000) is interesting on account of its Gothic monuments, particularly its cathedral. The streets are narrow, and the sanitary arrangements defective. It distils a well-known aromatic liquid, called *Eau de Cologne*.

Coblentz (28,000) is a well-built town, with wine trade, higher up the Rhine, at the confluence of the Moselle. **Ehrenbreitstein**, on the opposite side of the river, is one of the strongest fortresses in Europe. **Bonn**, long distinguished for its university, stands also on the Rhine. It is the birth-place of Beethoven. **Dusseldorf** (40,000) is a flourishing port for a large industrial district around, including **Elberfeld** (50,000), **Barmen**, and **Crefeld** (50,000), which have extensive cotton, silk, and velvet factories. **Treves** (20,000) is a declining town in the valley of the Moselle, with an old cathedral.

Aix-la-Chapelle (60,000), close to the Belgian frontier, has been noted since the time of the Romans for its hot springs. It has trade in jewellery, cloth, needles, and glass. It was the favourite residence of Charlemagne. Its cathedral contains a large collection of relics. This city is remarkable for a treaty, 1748, which ended the Austrian War of Succession.

Saarbruck, on the Saar, is remarkable for the first engagement in the Franco-Prussian war, 1870. **Saar-Louis** is a fortress on the same river a little further N.

9. **Hohenzollern** is enclosed by Baden and Wurtemberg, not far from the Lake of Constance. The Danube and Neckar cross it. This principality came under the King of Prussia in 1849, who was then declared the head of the family of this name.

Sigmaringen is an insignificant place on the Danube, though the capital.

Hechingen is a small town on the Neckar, with a college.

10. **Jahde** is a small district near the bay of same name.

11. **Hessen-Nassau**, lying between the Rhine Province and Darmstadt, has an agreeable surface, containing hills and valleys. It has the Rhine on the W. and the

Main on the S. It produces wines, fruits, and grain, and has an active industry and beautiful scenery.

Wiesbaden (20,000) is the resort of many fashionable visitors, from June to September, for whose accommodation every effort is made by the numerous hotel proprietors. It is noted for hot springs, and the gambling propensities of its inhabitants and visitors. **Ems** has also mineral waters of great repute. At *Kochbrunnen* the far-famed seltzer water is procured. **Homburg** is now much frequented on account of its waters.

12. **Hanover*** is bounded by the Elbe for nearly 100 miles, and traversed in the interior by the Ems and Weser. The surface is generally level, the soil in some places marshy, but fertile near the rivers. The Harz mountains are very rich in minerals, and their sides are covered with forests. The duchy of Brunswick divides this country into two parts.

Hanover (73,000) stands in the midst of a sandy plain, and has one of the largest theatres in Germany.

Celle or **Zell** is an active trading town; is in the N. E. **Hildesheim**, an episcopality in the S. E. **Emden** is the chief port. **Luneburg** is in the midst of bee culture. **Gottingen** has a university founded by George II. **Osnabruck** is well known for its coarse linens. **Clausthal** has a school of mines.

13. **Schleswig-Holstein** consists of two duchies taken from Denmark by Prussia and Austria, in 1864, by force of arms. They lie S. of Jutland, and, though the climate is damp and foggy, are productive districts.

Flensburg (20,000), the capital, is a good town on the Schlei.

Gluckstadt, on the Elbe, has active trade. **Altona** (50,000), near Hamburg, has also great commerce. It was burned by the Swedes, 1718. **Kiel** (20,000) is a Prussian naval arsenal. **Schleswig** (10,000) gave its name to the duchy of same name.

14. **Lauenburg** is a small duchy, now made an appanage of the Prussian crown.

Lauenburg, a small town on the Elbe, is the capital.

* It came into the possession of England with the House of Brunawick; was separated from it on account of the Salic law, on the accession of Her Majesty, 1837; was incorporated with Prussia, 1866.

KINGDOM OF SAXONY.

Saxony lies N. of Bohemia and Bavaria, and S. of Prussian Saxony, and is traversed by the Elbe from S.W. to N.E. The Riesengebirge mountains, rising in some places to 4,000 feet, form a barrier between this country and Bohemia. The district on the E. of the Elbe is generally hilly and picturesque; but on the W. of it the surface is much more level. On the hills the climate is severe, but very mild in the valleys. This is one of the most carefully cultivated countries in Europe, and produces good crops of rye, hemp, flax, wheat, oats, and barley. The forests cover one-fourth of the kingdom. The *minerals* consist of gold, silver, copper, iron, lead, tin, zinc, marble, etc. Its *manufactures* are very important—damasks, silks, cottons, woollens, porcelain, paints, pianos, paper. Wool is largely exported. Education is widely spread by a large number of excellent schools and colleges, with the Leipsic university at the head of all. Since 1835 all children from six to fourteen years of age are compelled to attend the primary schools.

Dresden (150,000) stands on a plain surrounded by beautiful ranges of hills, and has eleven gates or entrances. It has splendid public buildings, including a royal palace, a picture gallery (one of the richest in Europe), a library, academy of arts, mint, arsenal, treasury, observatory, and post-office. Its mechanics are ingenious in the manufacture of mathematical and musical instruments.

Leipsic (80,000), on a plain near the banks of the Elster, is the seat of a university, and the centre of the German book trade, which ranks next to that of London and Paris in value. It has three annual book fairs, each lasting three weeks, during which great animation prevails. The type founding is very extensive. Here occurred "The Battle of Nations," 1813, which lasted three days, and ended in the defeat of the French. **Chemnitz** (45,000) is an important manufacturing town. **Freiburg** (18,000) is the capital of the mining district, and has a mining school. **Meisse**, on the Elbe, is the seat of the china manufacture.

Mechlenburg-Schwerin is a grand duchy on the coast of the Baltic, with for the most part a sandy soil, and a surface interspersed with pine forests and small lakes.

Schwerin (22,000) has a pleasant position on the brink of a lake. **Rostock** (26,000), the largest town in the duchy, is near the Baltic.

Saxe-Weimar, a grand duchy, consists of more than a dozen fragments, all of which have a diversified surface, but a productive soil.

Weimar is a small town of little importance.

Jena, with a university, was the scene of the overthrow of the Prussians by the French, 1806.

Mechlenburg-Strelitz is formed of two parts, one E. and the other W. of the former duchy.

New Strelitz is a small town of little importance.

Oldenburg is a grand duchy, made up of three parts, one nearly surrounded by Hanover and extending to the mouth of the Weser; another in Holstein; and the third in the S. of Rhenish Prussia. The surface is generally level.

Oldenburg (8,000) is a small town with little trade.

Brunswick consists of three principal districts unconnected, and some small detached parts lying in the S. of Hanover. The Harz mountains cover much of the surface; the soil is fertile, and minerals are abundant.

Brunswick (45,000) is an ancient city on the railway from Hanover to Berlin, with many quaint old buildings, a cathedral, museum, and some interesting monuments.

Wolfenbittel has a magnificent public library.

Saxe-Meiningen is very centrally situated to the N. of Bavaria. *Saxe Altenburg* lies to the W. of the kingdom of Saxony. *Coburg* is on the N. border of Bavaria, and *Gotha* further N. near Erfurt. *Anhalt* lies in the midst of Prussian Saxony. *Schwartz Rudolstadt* is one of the Thuringian states lying W. of Saxony; and *Schwartz Sondershausen*

further N. in Prussian Saxony. *Waldeck* lies S. of the province of Westphalia. *Reuss* lies W. of Saxony; *Schaumburg* is surrounded by Hanover; and *Lippe Detmold* lies a few miles S. of it. The *Hanse Towns* belonging to North Germany are :—

Lubeck is built on the Trave, near the Baltic, with *Travemunde* for its port. It once stood at the head of the Hanseatic League, and was then a place of great importance. Its houses are old and lofty, its cathedral and town hall antique, and its monuments fantastic. The first meeting of the League was held here in 1260, and the last in 1630, when the society was dissolved.

Bremen, enclosed by Oldenburg and Hanover, is a clean, pleasant town, where most of the German emigrants for the New World embark. The trade in cigars and tobacco is extensive. Its outer harbour is at **Bremerhaven** (6,000).

Hamburg is the great commercial mart of N. Germany. It stands seventy miles from the mouth of the Elbe, where the Alster joins that river. *Cuxhaven*, at the mouth of the Elbe, is the outward port of Hamburg, and a much frequented watering place. In 1842 much of the city was destroyed by fire; but it has been since rebuilt in a style befitting its wealth and importance. Its merchants are wealthy, enterprising, and hospitable.

Hessen or Hesse lies principally N. of the river Main, and is, generally speaking, mountainous. It produces excellent wines, and has valuable coal-fields.

Mainz or Mayence (40,000), the capital, is an important town, situated near the junction of the Rhine and Main, and is as noted for its strong military position as for its commercial importance. It is always strongly garrisoned.

Glessen is a railway centre in the W. of the country, with an important university.

Frankfort-on-the-Main (80,000) was also annexed by Prussia in 1867. It was formerly a free city, and the meeting place of the German diet. It has a good position for commercial intercourse, and is the headquarters of the German monetary transactions, including banking, etc. It has snuff and tobacco factories.

SOUTH GERMANY.

South Germany, generally speaking, lies S. of the River Main, and consists of the following :—

State.	Sq. Miles	Population.	Capital.
1 Bavaria, - -	29,441	4,824,421	Munich on the Isar.
2 Wurtemberg, -	7,530	1,778,396	Stuttgart on the Nesenbach.
3 Baden, - -	5,910	1,434,970	Carlsruhe on the Rhine.
4 Hesse-Darmstadt,	1,698	565,659	Darmstadt on the Darm.
5 Liechtenstein, -	63	8,320	Liechtenstein.
6 Alsace-Lorraine,	8,000	2,000,000	Strasburg near the Rhine.

KINGDOM OF BAVARIA.

Bavaria is the most important and most populous of the states of the South Germanic Confederation.

This country is divided into two parts, the eastern division containing eleven-twelfths of the whole, and the western division, on the left bank of the Rhine, called the *Palatinate*, contains the remainder. The kingdom is sub-divided into eight circles. Nearly one-third of the country is covered with forests of pine and fir. The eastern division contains seven provinces, and is crossed by the Danube from W. to E. South of the river the country is elevated, being penetrated by spurs of the Tyrolese Alps, and sprinkled with lakes. North of the river the surface is well wooded, particularly the Bohmerwald hills on the eastern border, and also in the centre, a picturesque region. The usual grain crops and tobacco are produced from its rather productive soil; and hops are extensively cultivated. The *minerals* include coal, iron, copper, salt, and quicksilver; but the *manufactures*, with the exception of that of ale, to which the inhabitants are very partial, are as yet unimportant.

Munich (170,000) is the second highest capital city in Europe, and is much exposed to heat in summer, and cold in winter. Its streets

are narrow in the older parts, but spacious and regularly laid out in the modern, where there are fine public buildings, pleasure grounds, walks, and drives. Munich is the great seat of the fine arts of South Germany, and has a university of good repute.

Augsburg (50,000), on the Lech, is an ancient city now much below its former greatness. It has still extensive wine trade. Nuremberg (78,000) is an important town on the canal connecting the Rhine and Danube. Erlangen (12,000), on the Regnitz, has a university. Bamberg (25,000) is an important manufacturing town. Ratisbon (30,000), an old town on the Danube, was the seat of the German diet from 1663 to 1806. Wurzburg (41,000), on the Main, has also a university. Spire (9,000), in the Palatinate, is a very old town. Here the term Protestant was first applied to those who signed a celebrated "protest" made to the emperor Charles V., 1530. Landau (10,000) is a strong fortress, taken by Marlborough, 1704.

Among the battlefields may be mentioned, *Blenheim*, on the Danube, where Marlborough defeated the French, 1704; *Dettingen*, near Frankfort, where George II. defeated the French, 1743; *Hohenlinden*, where the French defeated the Austrians, 1800.

KINGDOM OF WURTEMBERG.

Wurtemberg is about 130 miles in length and 95 in breadth, with an elevated surface, the lowest part being 420 feet above sea level. The Swabian Alps run across the country from S. W. to N. E., and the mountains of the Black Forest touch it on the W. border. The valleys of the Neckar and Danube are 500 feet above sea level. The soil, though not very productive on the hills, is fruitful, and a good system of husbandry is followed. The *minerals* include silver, copper, iron, zinc, marble, and precious stones. Salt mines are worked by the Government. The *manufactures* consist of linens, woollens, silks, carpets, leather, and iron works. There is a good deal of inland and transit trade in this country. All kinds of fruits are carefully cultivated.

Stuttgart (70,000), on a tributary of the Neckar, is situated in the midst of hills clothed with vineyards. It is the seat of an important book trade, and its library has the greatest collection of bibles in the world. Its railway station is one of the handsomest in Germany.

Heilbron (17,000) is an industrial town, the centre of the vintage

district. **Tubingen** (9,000), on the Neckar, contains the national university. **Ulm** (20,000), where the navigation of the Danube begins, was the scene of the surrender of General Mack with his army to Napoleon I. **Constadt** has mineral waters.

GRAND DUCHY OF BADEN.

Baden, a grand duchy, is a long narrow district N. of Switzerland, on the E. bank of the Rhine, traversed by the Black Forest, which is remarkable for scenery. It contains the source of the Danube. The climate is mild, and the soil fertile. The usual cereal crops, with tobacco, flax, hops, and maize, are raised.

Carlsruhe (30,000) contains the ducal palace, from which the thirty-two streets of which it consists diverge in the form of a fan.

Baden-Baden (9,000), with mineral waters, is much frequented by tourists. **Mannheim** (30,000), the principal commercial mart of the country, is regularly built in a beautiful country. It is the head of steamboat navigation of the Rhine.

Freiburg (20,000), on the forest border, has a fine cathedral. **Constance**, on the lake of same name, is remarkable for its ecclesiastical council, 1414-18. **Kehl** is a fortress opposite Strasburg. **Heidelberg**, with an old castle, is an important town on the Neckar, with a university.

Liechtenstein lies to the S. of the Lake of Constance, and is enclosed by Switzerland and the Tyrol. It is a small principality.

Liechtenstein, the capital, is a mere village.

Darmstadt has a level surface, except on the E., where the Odenwald hills rise to a considerable height, with good plantations on their sides. Some wine is produced.

Darmstadt (30,000) consists of an old and a new town. It has a good library.

Offenbach (20,000) is a very industrious town. **Worms** (12,000) is an ancient city on the Rhine, with statues of many distinguished Germans.

Alsace-Lorraine, ceded by France to Germany, 1871, consists of all the province of Alsace, with the exception of Belfort and the district around it. The Vosges mountains run through the W. of this province, and the Rhine forms

its E. boundary. Alsace is very fertile, rich in mines, and possessing numerous manufactures. By the treaty of Ryswick, 1697, it was retained by France, which had previously conquered and taken it from Germany.

Lorraine is usually spoken of as French and German, according as the French or German language is spoken by the inhabitants of the district. *German Lorraine*, generally speaking, lies between Metz and the Vosges mountains.

Strasburg (80,000), surrounded by a wall and entered by seven gates, stands two miles from the Rhine, and is one of the strongest fortresses in Europe. It is watered by the small river *Ill*, and possesses one of the most magnificent Gothic cathedrals in the world. The streets are generally narrow and the houses lofty. It has long been a place of transit trade between France and Germany—a bridge of boats here crossing the river to *Kehl* on the opposite bank. It has trade in turpentine, and brewed, until lately, half of the beer used in all France. In 1870 it was taken by the Germans after a vigorous siege of several weeks.

Mulhouse or **Mulhausen** (30,000) has become a little Manchester. It is on the *Ill*, and produces printed cottons, silks, and muslins. **Colmar** (21,000), also on the *Ill*, has similar industry.

Metz (65,000), on the *Moselle*, is the largest town in German Lorraine, and one of the strongest fortresses in the world. In 1522 it was unsuccessfully besieged by Charles V. It was, until 1871, a great arsenal and artillery school for the French army. Besides, it has lace, pin, brush, flannel, and army-clothing factories. Here occurred the greatest disaster to an army ever recorded, when the large force (180,000 men) under Bazaine capitulated to the Prussians in 1870, after fruitless attempts to escape.

Wissemburg, on the *Lauter*, in Alsace, was the scene of a victory of the Crown Prince of Prussia over General Douay early in the Franco-Prussian war, 1870. **Woerth** was that of a defeat of Marshal Mac Mahon two days after. **Phalsburg**, in the Vosges, a strong fortress, was taken after a siege, 1870. The two most important battlefields in Lorraine, in the late war, are **Forbach** and **Gravelotte**. **Toul** (9,000) was also taken by the Germans. **Thionville** (7000), on the *Moselle*, near the Belgian frontier, is a very strong fortress.

Mountains.—Central Germany contains many mountains of considerable elevation, in which most of the rivers have their sources. The *Bohmerwald*, *Erzegebirge*, and *Riesengebirge*, are on the borders of Bohemia; the *Thuringerwald* is further W., and the *Odenwald* con-

tinues southward to the Black Forest. On the W. of the Rhine, and running parallel to it, are the *Vosges*, rising 4,690 feet in their highest peak. They have beautiful vine-clad slopes.

Rivers.—The principal drainage of Germany is carried N. to the Baltic and North Sea. For the Memel, Oder, Elbe, Weser, and Rhine, see page 67. Among the smaller rivers are the *Pregel*, flowing into the Frische Haff. Among the tributaries of the Oder are the *Neisse*, in Silesia; the *Warthe*, in Brandenburg. The *Ems* flows through Hanover into Dollart Bay. The Danube receives the *Inn*, *Isar*, *Lech*, *Iller*, and *Nab*, in South Germany, the W. of which is drained by the Rhine.

Coast Line.—The Baltic coast line extends about 500 miles, and is monotonous and dreary, with a succession of sandhills. It is remarkable for its *haffs* or bays, enclosed by tongues of land, consisting of accumulations of sand. The *Frische* haff is so named from the freshness of its waters: the *Curische* haff from an ancient tribe, the Cures, who dwelt on its banks. The bank between this haff and the sea produces much amber. Near the *Stettiner* haff, or Bay of Stettin, are the well-wooded Isles of *Usedom* and *Wollin*, and further W. the large island of *Rugen*, much indented by the sea, and much varied in its surface, and containing many interesting remains. *Alsén*, E. of Schleswig, and *Sylt*, with others W. of it, now belong to Germany; and also five small islands off the coast of Hanover.

Lakes.—In Germany many large lakes are found. Chiem and Wurm Sees in the S.E. of Bavaria; Lake Constance is half German; Muritz, Planen, and Schweriner Sees in Mecklenburg; Mauer, Gówentin, and Spinting lakes in E. Prussia.

Railways.—Germany is well provided with railways. A line runs from Emden, on Dollart Bay, S. through Munster to Hamm, one of the great railway centres, whence a line runs N. to Hanover and Minden. From Hanover it proceeds through Magdeburg to Berlin, thence to *Kreutz*, another great centre, from which a line goes to Bomberg, thence to Königsberg, and E. into Russia. Along the E. bank of the Rhine a railway runs from Arnhem, in Holland, to Basle, in Switzerland. In short, all the German towns are connected by railways.

Industries, etc.—The principal productions have been already briefly referred to. In every state agriculture is the prevailing industry. The *manufactures* are important and increasing. Linen is made in Saxony and Silesia; cotton in Rhenish Prussia and Alsace; woollens, carpets, and damasks in Pomerania and Bavaria; toys, wooden clocks, and carving in Saxony, Bavaria, and the Black Forest. Hanover and Saxony have iron manufactures; chinaware is made in Saxony;

and jewellery in all the large towns. *Minerals* are abundant, and have been named under the various provinces.

In this country the climate varies much—the Rhine on an average is frozen over 26 days, the Weser 30, the Elbe 62, and the Memel 70 days every year.

Education is more advanced than in any other country in Europe. Without counting those of Austria, there are twenty universities—at Berlin, Breslau, Halle, Bonn, Griefswald, Munich, Wurzburg, Erlangen, Leipsic, Tübingen, Giessen, Jena, Rostock, Kiel, Heidelberg, and Königsberg. There are also about 500 high schools and above 40,000 national schools. In Prussia education has for many years been compulsory. About 150 public libraries are scattered through Germany, and 2,000 newspapers are published daily.

KINGDOM OF BELGIUM.

This kingdom is bounded, N. by Holland, E. by Prussia, S. by France, and W. by the North Sea, has an area of 11,373 square miles, and a population of about five millions. It lies between the parallels of $49\frac{1}{2}^{\circ}$, and $51\frac{1}{2}^{\circ}$ north, and meridians of $2\frac{1}{2}^{\circ}$ and 6° E. longitude.

Belgium is generally flat, particularly on the north and west, the low shores being in some places protected from the sea by sand hills, or dunes, and along the river banks by dykes; on the east and south, where its mineral treasures are found, the surface is slightly rugged. It is drained by the Scheldt, and Meuse, with the Lys and Rupel, two tributaries of the former. The soil, which is naturally fertile in the west and centre, has been rendered very productive by the industry of the people. Besides good pasturage, Belgium produces good crops of wheat, rye, oats, barley, flax, etc. This country was separated from Holland in 1831.

Provinces.	Sq. Miles.	Population.	Capital.
1 W. Flanders, -	1,248	631,854	Bruges, on a Canal.
2 E. Flanders, -	1,157	787,070	Ghent, on the Scheldt.
3 Hainault, -	1,436	789,844	Mons, on the Fleine.
4 S. Brabant, -	1,267	772,778	Brussels, on the Senne.
5 Antwerp, -	1,093	445,700	Antwerp, on the Scheldt.
6 Liege, -	1,116	514,894	Liege, on the Meuse.
7 Namur, -	1,413	290,980	Namur, on the Meuse.
8 Limburg, -	931	193,160	Hasselt, on the Demer.
9 Luxemburg, -	1,705	196,854	Arlon, on the Sernoy.

1. **West Flanders** is not so fertile as East Flanders, but produces fine flax, and much tobacco, has many dairies, and splendid draught horses.

Bruges (50,000), a walled town, on the canal from Ghent to Ostend, was once the most wealthy town of the Hanse League. It is now much decayed; six canals meet at it, and it is the second railway centre of Belgium.

Ostend (14,000), the packet station for England, a fine watering place, has a good fishery of herrings, cod, and oysters; was besieged by the Spaniards, 1601-4. **Courtray** (26,000), on the Lys, has great bleaching-works, and is famed for its damask table linen. Here occurred the "Battle of the Spurs," 1513. It has an academy, museum, and a library. **Ypres**, a quaint old town with the same industry (hence diaper), has the tomb of Jansen, once its bishop. Its cloth-hall is an exquisite example of secular Gothic architecture. **Nieuport**, with a herring fishery, is a small port on the N. Sea.

2. **East Flanders**, a highly cultivated and fertile province, is the most thickly peopled district of Europe (690 to each square mile).

Ghent (120,000), on 26 islands, in the Scheldt, has manufactures of cotton, linen, and silk. It is the birthplace of "John of Gaunt," and of the emperor Charles V. In 1814, a peace was made here between Great Britain and the United States.

Alost (15,000), a cloth and hop mart, also makes linen fabrics. **Lokeren** (16,000) makes good linen, and has the largest bleach-green in Belgium. **Dendermonde** (8,000), a linen seat, was taken by Marlborough, 1706. **Oudenarde** is the place where Marlborough gained a victory over the French, 1708.

3. **Hainault**, drained by the Hane and Sambre, is level on N. and W., and rugged on S. and E., where it is very rich in minerals.

Mons (26,000) is a strong fortress in the midst of coal and iron works. In 1691 it was besieged by Louis XIV., and it was taken by the French in 1792, 1794.

Tournay (33,000), strongly fortified, on the Scheldt, is the chief seat of the carpet trade, and produces elegant porcelain. Its cathedral is the largest in Belgium. **Charleroi** (8,000) was taken six times by the French. **Fontenoy** is the place where the English were defeated by the French, 1745. **Jemappes** was the scene of a defeat of the Austrians

by the French, 1792. **Fleurus** was the scene of three battles—the Spaniards against the German Protestants, 1622; a victory of the French over the Imperialists, 1690; and over the Allies, 1794.

4. **South Brabant**, containing the old forest of **Soignes**, is a highly cultivated plain.

Brussels (250,000), the capital of Belgium, on the **Senne**, is a fine, beautifully-built city, with extensive trade, a university, great printing business, and splendid public buildings.

Louvain (30,000) has brass foundries and an old university. **Lacken** is the residence of the court. **Waterloo** stands 10 miles S. of Brussels, where Napoleon I. was defeated by Wellington, 18th June, 1815. **Quatre Bras**, ten miles S. of Waterloo, where, 16th June, 1815, Wellington repulsed an attack of Marshal Ney. **Ramillies** was the scene of a great victory gained by Marlborough over the French, 1706.

5. **Antwerp** is fertile towards the west, but sterile towards the east, where the soil is sandy and peaty.

Antwerp (105,000), on the **Scheldt**, 60 miles from the sea, with extensive foreign trade, is well fortified, has manufactures of cloths, silks, muslins, tapestry, velvet, etc., and has ship building, but has narrow streets and an antique appearance. It was a flourishing place previous to its capture by the Spaniards in 1576 and 1585.

Mechlin or **Malines** (33,000), on the **Dyle**, is the centre of the lace making, the seat of the Belgian primate, and the centre of the railway system. **Turnhout** (14,000) is a place of considerable importance.

6. **Liege** gives fine wheat, is watered by the **Meuse**, along the banks of which are the chief iron works, and has some moorlands.

Liege (100,000), called the “**Birmingham of Belgium**,” with numerous cannon foundries, zinc, vitriol, and glass works, has coal, lead, iron, and alum mines, slate and marble quarries in its vicinity. Fire-arms are made for France and Prussia, and nails for France and Holland.

Verviers (25,000) is justly called the **Leeds of Belgium**. **Huy** (*we*), on the **Meuse**, where Peter the Hermit was buried, has paper mills. It is strongly fortified. **Spa** and **Heristal** have mineral waters. **Moresnet** has zinc mines.

7. **Namur** is a diversified district, watered by the **Meuse**, and is rich in minerals.

Namur (24,000), on the Meuse and Sombre, is the seat of the cutlery, glass, and hardware trade, and has coal, iron, and lead mines, with marble quarries, in its vicinity. Taken by Louis XIV., 1692; by William III., 1695.

Dinant, a small town, with beautiful scenery, has marble quarries, and a citadel perched on a rock.

8. **Limburg** is much employed in bee culture and cattle rearing.

Hasselt (9,000), has distilleries, linen, lace, and tobacco factories.

9. **Luxemburg** has extensive forests and a moist climate. It is entered by the Ardennes.

Arlon (6,000) is situated near the Prussian frontier.

Mountains.—All the northern provinces are flat; but the four southern provinces are much traversed by branches of the Ardennes.

Rivers.—Along the rivers' banks, in the N. and W., are dykes which prevent inundations. The *Scheldt* enters from France, and receives the Lys, Dender, and Rupel; the *Meuse* or Maas, on the E., receives the Sambre and the Ourthe.

Coast Line.—The only harbour is Ostend, which is artificial. The principal port of the kingdom is Antwerp, which has the free navigation of the Scheldt secured to it by treaty.

Minerals.—In the S.E. abundance of coal, iron, copper, lead, and zinc is found. The coal and iron are found in proximity, and therefore contribute to render the country highly manufacturing. The following are the chief seats of the industries: *Iron*, Liege, Namur, Charleroi; *coal*, Mons; *hardware*, Liege; *fine cloth*, Verviers; *cutlery*, Namur; *linen*, Dendermonde, Courtray; *lace*, Mechlin; *carpets*, Tournay.

Railways.—Belgium is a net-work of railways; several enter it from France, and also from Holland and Germany. The railways are chiefly worked by the State.

Education.—Belgium has four universities—at Brussels, Louvain, Ghent, and Liege. The State exercises a superintendence over all schools. On the whole, the primary schools are well conducted. About 180 daily papers are published in Belgium.

THE NETHERLANDS.

Holland, or the Netherlands, lies N. of Belgium and W. of Prussia, being washed on the N and W. by the North Sea, where a number of islands fringe the coast line. It lies between the parallels of $50^{\circ} 46'$ and $53^{\circ} 34'$ N. latitude, and the meridians of $3^{\circ} 24'$ and $7^{\circ} 12'$ E. longitude. It includes part of the Duchy of Limburg, and the King of Holland is also sovereign of the Duchy of Luxemburg. Holland and Belgium, formerly one kingdom, were separated in 1831. Holland is 160 miles long and about 120 broad.

The following are the provinces of Holland, with their capitals, etc. :—

Province.	Sq. Miles.	Population.	Capital.
1 South Holland,	1,176	681,321	The Hague, near the N. Sea.
2 North Holland,	966	578,915	Amsterdam, on the Zuyder Zee.
3 Utrecht, -	531	174,562	Utrecht, on the Rhine.
4 Limburg, -	854	225,326	Maastricht, on the Rhine.
5 Zeeland, -	642	179,001	Middleburg, on Walcheren isle.
6 Groningen, -	907	229,018	Groningen.
7 Friesland, -	1,267	295,946	Leeuwarden.
8 Guelderland, -	1,972	434,093	Arnhem, on the Rhine.
9 North Brabant,	1,985	431,253	Bois-le-duc, on the Maas.
10 Oberyssel, -	1,308	256,449	Deventer.
11 Drenthe, -	1,029	106,532	Assen.
12 Luxemburg, -	990	199,958	Luxemburg, on the Alzet.

Of the above provinces, five border on the Zuyder Zee, and four others are also maritime. The surface of the whole country is perfectly level, and the sea is only kept out by embankments.

1. **South Holland** contains the districts around the mouths of the Rhine and Maas, which are very productive. This province contains much industry and enterprise, and is traversed by good roads, canals, and railways. To it belong the islands of *Voorne*, *Over-Feakke*, and *Beyerland*.

The Hague (95,000), the political capital of the kingdom, is a beautiful town in a very pleasing country. It is the birth-place of William III. of England and Huyghens the mathematician.

Rotterdam (115,000), on the Maas, is an elegant commercial town: ranks next to Amsterdam in trade. Its cathedral, exchange, town-hall, and palace of justice are the chief buildings. This town is the birth-place of Erasmus. Dort or Dordrecht (20,000), on an island in the Maas, formed by an inundation in 1421, was the seat of the first parliament of the States-General, 1572, after achieving their independence. Schiedam (17,000) is one of the chief seats for the manufacture of Holland gin. Delft (17,000) is an old town, once famous for pottery, to which it has given its name. Leyden (40,000), on the old Rhine near its mouth, is famous for its cloth manufacture and university. In 1574 it suffered fearfully from a siege by the Spaniards, no bread having been seen for seven weeks, until the overflow of the waters compelled the besiegers to retire. Brielle, an old seaport, was given up to England, as a security in the War of Independence, by the Dutch patriots.

2. North Holland is a peninsula, lying between the North Sea and the Zuyder Zee, and includes the islands of *Texel*, *Vlieland*, and *Ter-Schelling*, at the mouth of the latter. The north shore is defended by the great De Helder dyke, formed of granite, with immense buttresses. Sandhills run along the W. shore, but marshy ponds are found in the interior. Haarlem Lake is now drained and cropped.

Amsterdam* (270,000), the commercial capital of the kingdom, stands at the junction of the river Amstel with the Zuyder Zee, on a morass, into which piles of wood were driven for its foundation. By canals running in every direction, 95 isles, or blocks, are formed, which are united by bridges. The stadthouse, or king's residence when he visits the city, rests on 13,659 piles as a foundation. The exchange, town-hall, churches of St. Nicholas and St. Catherine, are the chief buildings. As a port, this city has an immense trade with the E. Indies, London, and many other places. Like Venice, the smell from the canals in summer is not agreeable. About 8,000 persons are engaged at diamond cutting.

Haarlem (30,000), with bleach works and nurseries, and trade in

* The "dam of the Amstel."

flower seeds, is 12 miles to the W. In its principal church, St. Bavons, there is an organ with 5,000 pipes. In 1573 it was taken by the Spaniards after a seven months' siege. **Saardam** or **Saandam**, where Peter the Great worked as a ship carpenter, has a great number of windmills. **Alkmar**, on the Ship Canal, is a great cheese mart. **Helder**, at the mouth of the canal, is a fortified port. **Hoorn**, in the E. of the peninsula, was the birth-place of the navigator Schouten, who first sailed round Cape Horn ; and also of Tasman.

3. **Utrecht**, the smallest province, touches the Zuyder Zee on the S., is a little more elevated than the surrounding districts, and is devoted to tillage and pasture.

Utrecht (60,000) stands on the Rhine, in a well-wooded district. It has a university, and velvet and cloth factories. Here was concluded, in 1713, a treaty which gave peace to Europe.

Amersfort was the birth-place of the patriot Barneveldt, who, owing to the enmity of Prince Maurice, was beheaded at the Hague, 1618, at the age of seventy-two.

4. **Limburg**, traversed from S. to N. by the Maas, is a narrow province between Brabant and Prussia ; it is also a German duchy.

Maastricht (29,000) is a very strong place, with some quarries in the neighbourhood.

5. **Zealand** (sea land) is almost entirely composed of islands, the high tides rising much above the surface. The mouth of the Scheldt here forms a wide channel. The chief islands are : *Schonwen, Beveland, N. and S., and Walcheren.*

Middleburg (20,000), where the telescope was invented, is in the isle of *Walcheren*, which is memorable for the disastrous expedition of British troops under Chatham, 1809.

Flushing, on the same island, is a nice port, commanding the mouth of the Scheldt ; the birthplace of De Ruyter.

6. **Groningen**, with excellent arable land, has a surface marshy in some places, and sprinkled with lakes in the N. E. It has a large number of horses and cattle, and includes three islands.

Groningen (38,000) communicates with the sea by means of a navigable canal. It has a university, museum, and library.

7. **Friesland**, to the W., is very similar in character to Groningen, but has many more lakes. It includes the isle of Ameland.

Leeuwarden (30,000) is a great canal centre.

8. **Guelderland** lies S. E. of the Zuyder Zee, is bounded on the S. by the Maas, and traversed by the Rhine. Much of it is studded with parks and gardens.

Arnhem or **Arnheim** (25,000) stands near the Prussian frontier, and has a good trade by the river Rhine.

Nymeguen (20,000), on the Waal, is strongly fortified. Here a treaty was concluded in 1678. **Zutphen** is the place where the gallant Sir Philip Sydney fell, 1586.

9. **North Brabant** is the largest province in the kingdom, and is chiefly watered by the Maas. It borders on Belgium, and contains many strong fortresses.

Bois-le-duc (26,000), "the duke's wood," is a fortified town with linen manufactures.

Breda, with an arsenal and a military academy, is strongly fortified. Here Charles II. and James II. long resided in exile. **Bergen-op-Zoom**, a very strong fortress, was in 1813 unsuccessfully besieged by the British.

10. **Oberyssel** extends from the Zuyder Zee to the Prussian frontier.

Zwolle (18,000) is a railway centre with considerable trade.

Deventer is a very strong town on the river to which this province owes its name.

11. **Drenthe** is the least important and least peopled of the Dutch provinces. It has some peat bogs, lakes, and marshes.

Assen is a small town, with very little trade.

12. **Luxemburg** is in the S. E. of Belgium, consists of a hilly surface, much covered with forests, and drained

by the Maas and its tributaries. It also belongs to Germany, and is a grand duchy.

Luxemburg is a very strong fortress, garrisoned by Germans. It stands on a tributary of the Maas.

Rivers.—The Rhine, Maas, and Scheldt, are the chief rivers.

Industries.—The Dutch are a clean, industrious people, who pride themselves much in their dairies. Much cheese is exported, and a kind of drink much used in England called gin. Horticulture is a very favourite pursuit; cottons, woollens, linens, and damasks are manufactured.

Railways.—A great number of canals cross this country everywhere, and railways are numerous. The chief centres are at Utrecht, Zwolle, and Leeuwarden.

Education.—There are three universities—at Leyden, Utrecht, and Groningen; and a military academy at Breda. The public schools are well supported and flourishing.

Colonies.—The colonial possessions are numerous and important; in *Africa*, several stations on the coast of Guinea; in *America*, Guiana, St. Eustacius, Curaçoa, St. Martin, Bonaire, and Saba; in the *East Indies*, Java and Madura, Sumatra, Borneo, Banca, Celebes, Timor, and the Moluccas.

KINGDOM OF DENMARK.

The kingdom of Denmark at present consists of the peninsula of Jutland, the islands of Funen, Zealand, Faaland, Bornholm, and Falster, with several smaller islands in the Cattegat, together with the Faroe isles and Greenland. Indeed more than one-half of the whole is insular.

It is situated between the parallels of $54^{\circ} 35'$ and $57^{\circ} 41'$ N. latitude, and between $8^{\circ} 4'$ and $12^{\circ} 37'$ E. longitude.

The Cattegat communicates with the Baltic by three passages—the Sound, the Great Belt, and the Little Belt. The climate of Denmark is cold, foggy, and rainy. The soil is not generally fertile, and more than one-half of the population live by agriculture. The products are rye, oats, barley, beans, peas, etc. The manufactures are for home use, but the fisheries are very important and valuable.

The following are the principal divisions :—

Divisions.	Sq. Miles.	Population.	Chief Town.
1. Zealand, Moen, and Samso, -	2,849	608,090	Copenhagen.
2. Funen, Langland, and Arro, -	1,286	230,455	Odensee.
3. Laaland, Falster, etc., - -	648	91,645	Mariboe.
4. Jutland, - - - -	9,791	755,996	Aarhuus.

Zealand is of an irregular form, with two good bays on the E., and an undulating surface of no great elevation in the interior,

Funen has a coast a little more indented.

Samso is a much smaller isle N. of Funen.

Moen lies S. E. of Zealand, and is hilly. *Falster* and *Laaland* lie S. of Zealand.

Bornholm is about twenty miles long and eleven broad, and exports building-stone, marble, and coal to Copenhagen.

Jutland, ending in the Skaw, is a cold country with a poor soil—the surface covered with lakes, and penetrated on the E. by the *Lym-fiord*, which almost crosses the whole peninsula.

Copenhagen (160,000) stands on the Sound, on the island of Zealand, and is strongly fortified. This is a beautiful city, with a good university, museum of northern antiquities, exchange, etc. Here, in 1801, the British fleet, under Nelson, almost destroyed the Danish fleet. Here also, in 1807, Lord Cathcart took the fleet and brought it to England.

Elsinore (9,000), on the same island, on the narrowest part of the Sound, was the scene of “Hamlet.” Aalborg (10,000), on the Lym-fiord, sometimes ranks as the capital of Jutland. Aarhuus (11,000) is a much more improving place, with increasing commerce. Odensee (14,000), on Funen, is an old town, has glove and coarse woollen factories, and a good cathedral.

Ronne, the capital of Bornholm, has trade in fish and wooden clocks. Roskilde, on Zealand, has a cathedral, and was once the capital of Denmark.

Mountains and Minerals.—There is no mountain in Denmark, and the minerals are unimportant.

Education.—The Danes are among the best educated people in Europe.

Railways.—A railway runs from Copenhagen across the island, centrally, to the Great Belt, and is continued from Nyborg, past Odense, across Funen to the Little Belt, opposite Fredericia, on the mainland, whence a railway proceeds S. to Hamburg.

Colonies.—The Farøe isles lie between Denmark and Iceland, about mid-way. They produce fish and cattle, and the well-known eider-down from the immense numbers of sea-fowl. They are thirty-five in number, of which seventeen are inhabited. They yield barley and oats.

Stromsøe is the only town worth the name. These isles send a representative to Copenhagen.

Iceland, that is, “land of ice,” is on the boundary between the Atlantic and Arctic oceans. Though cold and barren, it is interesting on account of its burning mountain, fisheries, and boiling springs, called *geysers*, which throw jets of boiling water to a great height. The coasts are indented by numerous gulfs. Potatoes are the chief crop. Many good pastures exist, and fish are abundant.

Reikiavik, the capital, is a small town on the S.W., with trade in fish, etc. **Skalwt** is near Mount Hekla, and *Holar* on the N. coast. The population of the isle is only 70,000, who speak a dialect of the Norwegian language. Denmark also possesses the islands of Greenland, St. Thomas, Santa Cruz, and St. John, and some of the Nicobar isles.

SWEDEN AND NORWAY.*

Sweden and Norway form one kingdom since 1815, and embrace the whole of the Scandinavian peninsula.

Sweden has generally a flat surface, sloping towards the Baltic. Four-fifths of its inhabitants are engaged in agriculture; and one-tenth of the surface of the country is covered

* In Sweden, Norway, and Lapland, the people are so given to snuff that they use little spoons to shovel it up their nostrils.

with lakes. Extensive forests of pine, fir, and birch supply abundance of fuel, pitch, and tar.

Sweden is usually divided into three parts, which are sub-divided into twenty-four læns or prefectures.

Divisions.	Sqr. Miles.	Population.	Capitals.
Sweden Proper, - -	32,658	1,225,838	Stockholm, on L. Malar.
Gothland, - - -	37,924	2,456,430	Gothenburg, on the Gotha.
Norrland and Lapland,*	100,039	513,413	Gefle, on G. of Bothnia.

Stockholm (120,000) is situated between Lake Malar and the Baltic, and is defended by the strong fortress of Waxholm. The site of the city is very remarkable, consisting of seven islands and two promontories united by bridges, and "cradled on the waters of Lake Malar." The old part has narrow, winding streets. The waters are crowded with boats and small steamers for convenience of transit. The suburbs, which contain a splendid park, are very beautiful.

Upsal (9,000), the old capital, is about 40 miles to the N. It has an observatory, and a university in which the celebrated naturalist, Linnæus, was a professor. **Falun** is a mining and smelting town further N. **Orebro** (8,000), on Lake Hillmar, is an active little town.

Gothenburg (40,000), on the Gotha, is the chief commercial place of the kingdom. It has great intercourse with Hull. **Carlsrona** (16,000) is the ordinary station of the Swedish navy. **Kalmar** (8,000), with a cathedral and a castle, is best known for its treaty in 1397, when Margaret of Waldemar, "the Semiramis of the North," became Queen of Norway, Sweden, and Denmark. **Malmo** is on the Sound nearly opposite Copenhagen. **Jonkoping**, at the S. of Lake Wetter, has an arsenal and an arms factory. **Norrkoping** (20,000) has docks and ship-building and manufactures. **Gefle** (8,000) is an active port on the Gulf of Bothnia, as soon as the navigation opens in summer, exporting iron, timber, pitch, and tar. **Haparanda**, at the head of the gulf, opposite the Russian town, Tornea, is an active port. **Sundwall**, **Hernosand**, **Umea**, and **Pitea** are very small places.

Malmo (10,000), with factories of woollens and carpets, has steam communication with Lubeck and Copenhagen. **Lund** (5,000) is a very ancient cathedral city, with a university, a museum, and an observa-

* The mosquitos, which are larger than a gnat, are a great nuisance in Lapland.

tory. Wisby (3,000), on the island of Gothland, is a place once important, but now in ruins. Dannemora (5,000) is the chief seat of the iron mines. Westeras (3,000) has a college.

The following places in Swedish Lapland are sometimes visited by tourists :—

Lulea* (2,000), a pretty large town, has neither prisoner, policeman, magistrate, nor soldier; and the people on going from home hang the key of their door outside to show all comers they are not within.

Joekmoek is within the Arctic Circle, and has 300 or 400 people.

Quickjock, further N., 200 miles from Lulea, is about the same size, and is sometimes visited by travellers, as a place of interest.

NORWAY.

Norway, comprehending the western portion of the peninsula, extends about 1,100 miles from N. to S., with a breadth varying from 20 to 250 miles, being washed by the Atlantic Ocean, the N. Sea, and the Skager Rack.

It extends from 58° to 71° N. latitude, and from 5° to 28° E. longitude, with a surface, for the most part, covered with mountains, which in the S. constitute a series of table-lands, with narrow belts of lowland, some places along the coast. Norway is divided into six stifts, which are sub-divided into seventeen provinces or amts.

Stift.	Square Miles.	Population.	Capital.
Christiania, - - -	10,347	448,475	Christiania.
Christiansand, - - -	15,628	328,583	Christiansand.
Bergen, - - - -	12,552	227,853	Bergen.
Hamar, - - - -	20,796	245,354	Lessee.
Trondjem, - - - -	22,032	295,877	Trondjem.
Tromso, - - - -	41,932	155,336	Hammerfest.

Christiania (40,000), the capital of Norway, has broad and well-paved streets, in the midst of heights covered with pine plantations. It has a university, observatory, and a public library, and manufactures of paper and hardware, with trade in timber and fish.

* A in Swedish names is pronounced o, as Aland, Tornea, *pron.* Oland, Torneo.

Frederickshald (7,000) has trade in timber and grain. Near it is the strong fortress of *Frederickstein*, where, in 1718, Charles XII. was slain. **Drammen** (10,000) has trade in timber and pitch. **Laurvig** (3,000), with a cannon foundry, has trade in snuff and malt. **Christiansand** (10,000), with a good harbour, is fortified, and exports lobsters to London. It has active ship-building. **Stavanger** (11,000) is a very old town with a cathedral. It exports timber and fish. **Bergen** (26,000) is the commercial capital of the kingdom, and is the great depot for its fisheries. It has a very active industry in exporting fish, timber, iron, lobsters, and skins. **Trondjem** (16,000), the ancient capital of the country, has a cathedral in which the kings of Sweden are still crowned as kings of Norway. It exports timber, fish, and copper from the mines at *Roraas*, in the neighbourhood. **Hammerfest** (800) is the most northerly town in Europe, exports fish, oil, copper, etc.

Mountains.—The great mountain-chain which forms the water-shed of the Scandinavian peninsula has already been described.

Rivers.—The largest is the *Glommen*, which runs S. through Norway, and flows into the Skagerack. Several streams run parallel to each other, with a precipitous course towards the Gulf of Bothnia; among which may be named the *Tornea*, *Lulea*, *Pitea*, *Umea*, and the *Dal*, with dozens of less importance. The *Tornea* forms, for a considerable distance, the boundary between Sweden and Russia. The *Lulea* and *Pitea* have for their ports the towns of same name. The *Umea* is joined by the *Windel*, near its mouth. The *Dal* enters the Baltic N. of Hall Ness. On the W. of Norway there is no important river.

Lakes.—Commencing at the north there is, in Sweden, *Tornea* and *Lulea*, near the sources of the rivers of the same names; *Siljan*, near Falun; and the three large lakes further south, already described. In Norway the lakes are small.

Coast Line.—The coast line of Sweden is, generally speaking, regular, with only a few small islands near it. *Oland*, 85 miles long, separated from the mainland by Calmar Sound, is long and narrow, with a level surface. *Borgholm* is the capital. *Gothland* is a larger island. The inlets on this coast are always at the mouths of rivers, and usually small. The coast of Norway, on the other hand, is much broken up and deeply indented with arms of the sea called *fiords*, and numbers of islands lie adjacent to the shore. *Christiania* fiord in the S., *Bukke* and *Hardanger* in the S.W., *Sogne*, *Trondjem*, *Vest* (at the Lofoden isles), are the most important on the W. *Porsanger* and

Veranger fiords are in the extreme N. The *Lofoden* isles are the most important. S. of the principal isle is the celebrated *Maelstrom*, or whirlpool, formed by conflicting currents, and dangerous to mariners. These isles are rocky and mountainous, partaking of the physical character of the neighbouring mainland—some of the mountains in *Vaagen* rising to 4,000 feet. The islanders are chiefly engaged in fishing.

Minerals are abundant. Rich mines of copper, iron of the best quality, alum, vitriol, lead, sulphur, and zinc are found in many provinces. The iron of *Dannemora* can be converted into the very best steel. It is shipped for England at *Orebro*, on lake *Hielmar*, hence called "*Orebro iron*." In Norway the copper mines of *Roraas* and other places are very productive.

Industries.—After agriculture, mining is the next important industry. Fishing gives employment to many, timber is exported in great quantities, and ship-building is carried on with zeal in many of the ports.

Education is very generally diffused, and stationary and ambulatory schools provided through the country. Universities are at *Upsala* and *Sund* in Sweden, and at *Christiania* in Norway.

Railways.—From *Stockholm* a line runs N. to *Upsala*, and W. to *Porla*, thence S. to *Falkoping*, thence to *Gothenburg*. From *Falkoping* a line runs S.E. to *Jonkoping*, thence S. to *Malmo*. In Norway *Christiania* is connected with *Drammen* and also with *Eidevold* by railways.

THE RUSSIAN EMPIRE.

The Russian empire, the most extensive in the world, we shall consider under two heads. 1. Russia in Europe, the extent of which has been already given, and its eastern boundary given in the eastern boundary of Europe. 2. Siberia or Asiatic Russia. This immense empire has an extent of 6,000 miles from east to west, and 1,500 from north to south, with an area of 7,725,000 square miles, being one-seventh of the land on the earth's surface, ranking next to the British empire in extent.

Russia in Europe is bounded, N., Arctic Ocean; W., Norwegian and Swedish Lapland, the Baltic, Prussia, and Austria; S., Turkey, Black Sea, Sea of Azof, and the Caucasian mountains; E., Caspian Sea, Ural River, and the Ural mountains. Its length from the Arctic Ocean to the

south of the Crimea is 1,700 miles; breadth from the Baltic to Ural mountains, 1,500 miles, and contains an area of 2,000,000 of square miles, being more than half of the continent of Europe.

This is the flattest country in Europe; the only elevation is the Valdai hills, which form the watershed of the principal rivers, which, in general, have a very slow movement, and a very slight fall in their course to the sea. Vast tracts of forest cover the country in all directions, and by their immense supply of fir, pine, and other timber, constitute one great source of the national wealth. High plains called *steppes*, of great length, run along the southern and northern margins of the country, but are generally barren, sandy wastes, here and there dotted with salt marshes, and a stunted growth of dwarf birch like brushwood. The largest forest in Europe is that of Volkonskoi, which is around the sources of the Volga. We may conveniently consider the physical aspect of this vast empire by characterizing it under three great regions: *Northern*, *Middle*, and *Southern*. In the *Northern Region*, the country, except on its southern border, is too bleak for tillage, and its inhabitants live by hunting and fishing, the soil being for nine months in the year covered with hard frozen snow. The summer is short, and the sun is seen for nearly two months above the horizon in the most northern latitudes, though his rays are little effective owing to his small elevation above the horizon. The *Middle Region*, south of St. Petersburg, abounds in forests, marshes, very good pasturage, and a productive soil; pine trees towards the north; beech, oak, poplars, elms, and maple, more south. It is in this district that the enormous quantity of wheat which Russia exports is chiefly produced; the soil requiring no manure, the cultivation is simple and inexpensive. The *Southern Region* embraces the steppes already mentioned, over which immense herds of cattle range in a semi-wild state. Camels and sheep are also kept here. On the banks of the great rivers the soil is fertile.

Russia in Europe is divided into nine districts, which are subdivided into governments, as follows:—

I.—BALTIC PROVINCES.—Four Governments.

Government.	Sq. Mls.	Population.	Capital.
1 St. Petersburg,	- 24,305	1,174,174	St. Petersburg on the Neva
2 Esthonia, -	- 7,625	313,119	Revel on the G. of Finland
3 Livonia, -	- 18,775	925,275	Riga on mouth of Dwina.
4 Courland -	- 10,532	573,855	Mittau.

II.—GREAT RUSSIA.—Nineteen Governments.

1 Moscow,	-	-	12,793	1,580,405	Moscow on the Moskva.
2 Smolensk	-	-	21,647	1,137,211	Smolensk on the Dnieper.
3 Pleskow or Pakov,	-	-	17,353	718,907	Pakov.
4 Tver,	-	-	24,730	1,518,077	Tver on the Volga.
5 Novgorod,	-	-	45,479	1,006,294	Novgorod on the Volkhov.
6 Olenetz,	-	-	57,774	296,595	Petrozavodsk.
7 Archangel,	-	-	296,067	204,236	Archangel on N. Dwina.
8 Vologda	-	-	153,106	974,689	Vologda on the Suchona.
9 Jaroslavl,	-	-	13,233	969,645	Jaroslavl on the Mologa.
10 Kostroma,	-	-	30,853	1,073,971	Kostroma on Volga.
11 Vladimir,	-	-	18,297	1,221,720	Vladimir on the Yuzna.
12 Nijni Novgorod,	-	-	19,632	1,285,000	Nijni Novgorod (Volga).
13 Tambov,	-	-	25,559	1,974,584	Tambov on the Tena.
14 Riazan,	-	-	16,216	1,418,177	Riazan on the Moskva.
15 Tula,	-	-	11,846	1,152,517	Tula on the Don.
16 Kaluga,	-	-	11,922	1,000,071	Kaluga on the Ugra.
17 Orel, or Orlov-	-	-	18,266	1,530,900	Orel, on the Oka.
18 Kurak, or Kourak	-	-	17,423	1,826,949	Kurak on the Oka.
19 Voronetz,	-	-	25,618	1,938,116	Voronetz on the Don.

III.—FINLAND.—Eight Governments.

Finland,	-	-	147,415	1,840,957	Helsingfors on the Baltic.
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IV.—LITTLE RUSSIA.—Four Governments.

1 Kiev,	-	-	19,656	2,012,096	Kiev on the Dnieper.
2 Tchernigov,	-	-	20,232	1,487,371	Tchernigov.
3 Poltava,	-	-	19,196	1,911,444	Poltava.
4 Kharkov,	-	-	21,021	1,590,930	Kharkov on the Donetsk.

V.—WEST RUSSIA.—Eight Governments.

1 Wilna,	-	-	16,323	811,979	Wilna on the Wilna.
2 Grodno,	-	-	14,697	894,200	Grodno on the Niemen.
3 Vitebsk,	-	-	17,449	776,524	Vitebsk on the Dwina.
4 Mohilev,	-	-	18,451	923,888	Moghilev on the Dnieper.
5 Minsk,	-	-	34,477	1,001,338	Minsk.
6 Volhynia,	-	-	27,538	1,602,717	Jitomir.
7 Podolia,	-	-	16,388	1,870,000	Kamienetz on the Dniester.
8 Kovno,	-	-	15,715	1,051,914	Bialystock.

VI.—POLAND.—Ten Governments.

Poland,	-	-	43,240	5,319,363	Warsaw on the Vistula.
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VII.—SOUTH OR NEW RUSSIA.—Five Governments.

1 Jekaterinoslavl	-	26,056	1,204,751	Jekaterinoslavl on the Dnieper.
2 Kherson	-	27,713	1,330,152	Odessa on the Black Sea.
3 Taurida	-	24,688	659,509	Simferopol
4 Bessarabia	-	13,477	1,026,344	Kickinev on the Dniester.
5 Don Cossacks	-	63,778	949,630	Tcherkask on the Don.

VIII.—KASAN.—Five Governments.

1 Kasan	-	33,729	1,607,125	Kazan on the Volga.
2 Viatka	-	55,392	2,220,074	Viatka on the Viatka.
3 Perm*	-	128,640	2,138,308	Perm on the Kama.
4 Simbirsk	-	18,781	1,183,315	Simbrisk on the Kama.
5 Penza	-	14,647	1,175,980	Penza on the Soura.

IX.—ASTRAKHAN.—Five Governments.

1 Astrakhan	-	85,086	511,236	Astrakhan on the Volga.
2 Saratov	-	37,603	1,688,447	Saratov on the Volga.
3 Orenburg*	-	91,574	2,029,590	Orenburg on the Oural.
4 Samara	-	61,349	1,690,779	Samara on the Volga.
5 Ufa	-	45,796	1,265,000	Ufa on the Ufa.

The Baltic Provinces, with the exception of Courland, which was a part of Poland, once belonged to Sweden. They extend from the mouth of the Memel to the mouth of the Svir, at the S. E. of L. Ladoga, include half of the tongue of land between the G. of Finland and this lake, and enclose the G. of Riga. The isle of *Dago* belongs to Esthonia, and *Oesel* to Livonia. St. Petersburg is a rather barren province, with a flat surface studded over with parks and gardens and residences of the wealthier inhabitants of the metropolis. Several pine forests, small lakes, and marshes, are scattered through these provinces, whose crops consist of rye, barley, flax, and hemp. The climate is cold, and the winter long and severe.

St. Petersburg (700,000) stands on both banks of the river Neva, and several islands at the bottom of the gulf of Finland. Its foundation was laid in 1703, by Peter the Great, at the expense of the lives

* This Government is partly in Asia. Though *Caucasia* is partly in Europe, we shall treat of it under Asia.

of thousands of workmen, in the midst of an unhealthy swamp. The city, which is of an oval shape and regularly built, is one of the most magnificent capitals of Europe. An equestrian statue of the founder, on a massive granite block, adorns one of the chief thoroughfares, and most of the government buildings are of palatial excellence. The climate in winter is so cold that public fires are seen in different places for coachmen, servants, and others whose occupation compels them to remain some time in the open air. Sometimes the cold is 54° below zero. The university was founded in 1819. In summer trade is active. A few miles distant is Pultowa, the seat of the national observatory.

Kronstadt (40,000), on an island, is a very strong fortress, fruitlessly attacked by the Allies, 1855. Revel (25,000), on the S. of the gulf, is strongly fortified. Narva was the scene of a defeat of Charles XII. by Peter the Great, 1700. Riga (60,000), on the mouth of the S. Dwina, is one of the most commercial towns in Russia, and exports great quantities of flax-seed, corn, and timber. Dorpat (14,000) and Mitau (25,000) have universities. Libau is a small wood-built port, the most western in Russia.

Great Russia extends from 50° N. latitude to the Arctic Ocean, touching lake Peipus on the W. and the sea of Kara on the N. E. It includes the whole of the northern slope, and the rivers flowing into the Arctic Ocean, and contains the great centres of agricultural, manufacturing, and mining industries, as well as the most desolate regions in the extreme N. The surface is level, and the landscape uninviting. In the W. are the *Valdai* hills.

Moscow (400,000), the ancient capital of Russia, near the centre of the country, is still the winter residence of many of the nobility. In 1812, on the approach of the French, more than three-fourths of the city was burned. The principal buildings are the Kremlin, on a hill in the centre, triangular in shape, and a mile in circuit. Some splendid churches, convents, hospitals, and schools are found in this city. Its manufactures consist of woollens, cottons, silks, and carpets, and it is a great centre of the fur trade. It has a university.

Tula (60,000) has been called the "Birmingham of Russia," from its immense manufactures of fire arms. At Torjok are manufactures of Russian leather. Nijni Novgorod* (40,000) is remarkable for its

* *Novgorod*, that is, "new town:" *nijni* means "lower."

fairs, which last during July and August, at which hundreds of thousands attend. Novgorod (15,000), near Lake Ilmen, is a very old town, 100 miles S. of St. Petersburg. It was the ancient capital of the kingdom, and became a leading factory of the Hanseatic League, and almost republican in its government. In 1478 Ivan III. confiscated its property and put in irons the Hanse merchants. It was then a city of 400,000 inhabitants. It has an old cathedral and a kremlin or palace, in ruins. Archangel (25,000), 400 miles from St. Petersburg, was the only port before St. Petersburg was built, though it is closed by the ice nine months in every year. It stands forty miles from the sea. The peninsula on the N.W. is inhabited by a few fishermen and hunters. Kola (800) is inhabited by fishermen and hunters. Smolensk (13,000), with linen and paper trade, was the scene of a dearly-bought victory of the French over the Russians, 1812. Borodino, a village 75 miles from Moscow, was the scene of a similar engagement with a similar result. Olonetz (3,000) was the place where Peter the Great erected the first dock-yard. Vologda (14,000) has two cathedrals and active trade. It is a wooden town. Kostroma (14,000) has trade in corn and leather. Kaluga (35,000) is a great manufacturing town, with cottons, cloth, oil, paper, glass, leather, and sail-cloth. Tver (24,000), a fortified city, was consumed by fire, 1763, but the new city is beautifully built. Vladimir (7,000) was the capital of the Grand Duchy of Russia from 1157 to 1328. Kursk has an active commerce. Voronetz (19,000), on the Don, also has active trade.

Finland, which has belonged to Russia since 1809, is a grand duchy, on the N.W., extending 750 miles from N. to S., and 185 miles from E. to W. Nearly one-third of the surface is covered with lakes and marshes, although most of the country is 600 feet above sea level. The coast on the S. has many rocky islands near the mainland. Forests in the interior are still numerous. Fishing and cattle breeding are the chief industrial occupations, and pitch, tar, timber, and resin are exported. The climate is rigorous, and winter lasts eight months; spring lasts during the month of May; autumn the month of September, with summer three months intervening.

Helsingfors (16,000) is a strongly fortified town, with a university, a cathedral, and a senate-house. It is now a favourite watering-place. **Sweaborg** is the fortress of Abo. **Abo**, the ancient capital, is near the

Gulf of Bothnia, and has an old cathedral. Tornea, on an island in the river of the same name, is of mean appearance, but in summer has active trade.

The **Aland Isles**, at the entrance of the Gulf of Bothnia, consist of about 60 inhabited isles, and 200 islets. The inhabitants are hunters, fishers, and pilots, and delight in the approach of winter.

Aland, the largest isle, contains the fortress **Bomarsund**, taken by the Allies, 1854.

Little Russia, lying along the middle course of the Dnieper, was the nucleus of the empire, and is of a triangular shape. The soil is rich and very productive, except at the south.

Kiev (60,000), a very ancient city, was the capital for nearly 300 years. The cathedral of St. Sophia has seven gilt domes. It was here that Christianity was introduced into Russia. It has also a university, and a place of pilgrimage. **Pultava**, near the Dnieper, is the place where Charles XII. was defeated by Peter the Great, 1709. **Kharkov** (45,000), near the Donetz, has trade in wool and corn. It has a university.

West Russia borders on the Austrian province of Galicia, approaches the Baltic at Memel, and runs near to the Valdai hills in the N.E. The Niemen and Pripet are its chief rivers. It contains swamps, marshes, and forests, which are inhabited by elks, boars, wolves, badgers, and game birds.

Wilna (56,000), in a dreary district, is principally inhabited by persons engaged in agricultural trade, its stable industry. **Grodno** (16,000) has trade in woollens and fire-arms, but is fast declining. Here Stanislaus, last king of Poland, abdicated, 1795. **Minsk** (24,000) has a handsome Catholic cathedral, is the see of a Greek archbishop, has annual fairs, and trade in timber, iron, and leather. **Vitebsk** (17,000) is a wooden town encircled by walls, and has trade in linens and woollens. **Polotsk** (10,000) was taken from the Poles, 1579 and 1655. **Mohilev** (24,000) is a well-built and a walled town, with many churches, schools, and public buildings, with great trade in tobacco.

Russian Poland* lies in the W., has a flat surface (hence its name), covered with numerous forests in some parts, but in others containing the best wheat-producing soil in Europe, as well as the best pasturage. Agriculture, owing to political agitation and national discontent, is not far advanced. In the forests are wild animals called *aurochs*,† of which about 1,500 still survive. Most of the provinces of "West Russia" belonged to ancient Poland.

Warsaw (170,000) stands on ground gently rising from the river, and is strongly fortified. The streets are narrow, but the squares well-built and spacious, and the gardens and promenades exquisite. It contains the king's (now the viceroy's) palace, mint, exchange, cathedral, and extensive barracks. Warsaw has manufactures of woollens, soap, paper, hosiery, and hardware, and is a great centre of industry. In 1830 a formidable insurrection broke out here, which was put down with much cruelty by the Russians. A similar abortive attempt at independence was made in 1863.

Kalisz or **Kalisch** (17,000) stands on an island in the Prosna; is a centre of commerce. Here in 1706 the Swedes were defeated by the Poles. **Plock** (6,000), with active transit-trade, has manufactures of leather and skins. **Lublin** (17,000) has cloth manufactures, trade in corn and Hungarian wines, and three large fairs. **Zamosz** (5,000) is an important military post, unsuccessfully attacked by the Swedes, 1656; taken by the Saxons, 1715; and garrisoned by the French, 1812. **Pultusk**, on the Narew, was the scene of a defeat of the Russians by the French, 1806.

South or New Russia embraces the Crimea, and runs from the Turkish border round the N. of the Black Sea, and most of the Sea of Azov. In general it consists of plains and steppes (unwooded), with extensive swamps, and tracts of saline sand, of a dreary appearance in winter, and subject to violent storms and attacks of locusts. The Crimea is 170 miles from E. to W., and 130 from N. to S., with an area of 10,500 miles; a high ridge runs along the

* Poland was annexed to Russia at three successive periods, 1772, 1793, and 1795, by the infamous treaties in which Prussia and Austria also took part.

† They are a species of ox or bison, which are larger than any of our native cattle. They are protected by the Emperor, and hunted only once in fifty years.

S. coast, and a series of steppes lie to the N. of it. Bessarabia, on the Turkish border, is a rich agricultural district—ceded by Turkey by treaty.

Odessa (100,000), a well-built city, is on the Black Sea, 1,200 miles from St. Petersburg, and was only founded in 1792. It is of great commercial importance, and one of the greatest places in the world for the exportation of wheat. In 1854 it was bombarded by the Allies.

Kherson (30,000) is fortified, and has considerable trade, with a dock-yard and arsenal. Here Howard, the philanthropist, died, 1790. **Ekaterinoslav** (14,000) was founded in honour of the Empress Catherine II., 1787; has an important wool fair. **Taganrog** (18,000) is a great outlet for the Don grain districts. In 1855 it was bombarded by the Allies. **Rostov** and **Azof** are small towns near the mouth of the Don. **Simferopol** (16,000), the residence of the Russian authorities in the Crimea, has handsome streets, and much resembles an Asiatic town. **Sebastopol** was founded in 1787, and made the chief arsenal of the Russian fleet. It has an excellent harbour. Here occurred the famous siege by the English, French, Turks, and Sardinians, 1854-5. The chief battles in this war were:—**Inkerman**, won by the Allies, 5th November, 1854; **Balaklava**, won by the Allies, 25th October, 1854. Here the British troops suffered much misery, owing to the wretched condition of the harbour. The battle of **Alma**, on the small river of same name, was won in 1854. **Kaffa** (9,000) was taken by the Allies, 1855, and also **Kertch** (8,000). **Kishenau** (40,000), the capital of Bessarabia, is in the midst of an agricultural district. **Bender** (10,000) was the residence of Charles XII. for two years. **Choczim** (12,000) was the scene of a defeat of the Turks, 1673, by John Sobieski, and again in 1739 by the Russians.

Kasan lies in the E. of Russia, under the Ural mountains. It consists of fertile soil in the N., with good pastures and arable land, and its rivers have valuable fisheries. Many of its inhabitants are Asiatic in dress and customs, and one of its governments, Perm, extends beyond the Urals, a part of it being in Siberia.

Kasan (60,000) is about 450 miles from Moscow; has an Oriental appearance, many of its inhabitants being Mohammedans. It is an important seat of trade with Siberia.

Perm (12,000) is important on account of the rich mines of iron,

copper, and platina in the neighbourhood. **Viatka** (7,000) has iron manufactures. **Simbirsk** (17,000) has trade in fish and corn. **Penza** (10,000) has sulphur, iron, and vitriol in the neighbourhood.

Astrakhan, formerly a Tartar kingdom, borders on the Ural Mountains, the Caspian Sea, and the Sea of Azov. In character it resembles **Kasan**, with the exception of the former containing many of the steppes or wastes, the fertile land lying along the banks of the Volga. Salt is procured from the marshes of the steppes, and cattle are grazed on the plains in great numbers.

Astrakhan (45,000) stands at the head of the delta of the Volga, in the midst of a desert-like steppe. It contains a Persian and a Tartar commercial hall, a cathedral, and numerous schools. It has silk and leather factories, and extensive fisheries, which are the chief source of its wealth.

Saratov (45,000), on the Volga, consists of a walled town and a suburb, and has great transit trade and good fisheries. **Sarepta** (4,000), also on the Volga, has linen and silk trade. **Orenburg** (15,000), mostly built of wood, has important trade with Central Asia, and good fisheries. It is a good Tartar market town. **Uralsk** (13,000) is chiefly inhabited by Cossacks. **Samara** (12,000) has trade in iron, cattle, sheep, and skins. **Stavropol** (7,000) and **Kizliar** (8,000) are small towns with local trade.

Mountains.—The Caucasian and Ural Ranges have already been described.

Rivers.—The drainage of Russia may be conveniently described under four basins, each drained by four rivers :—I. The *Arctic* basin, drained by the *Petchora*, flowing into the gulf of same name in the N.E. ; the *Mezen*, *Dwina*, and *Onega*, all flowing into the White Sea, and forming gulfs at their mouths. II. The *Baltic* basin, drained by the *Neva*, 40 miles long, flowing into the Gulf of Finland ; the S. *Dwina*, into the Gulf of Riga ; and the *Memel* and *Vistula*, into the S.E. of the Baltic. III. The *Black Sea* basin, including that of the Sea of Azof, drained by the Don into the Sea of Azof ; *Dnieper*, *Bug*, and *Dniester*, into the Black Sea. IV. The *Caspian* basin, drained by the *Ural*, which forms the continental boundary ; the *Volga*, which is the largest river in Europe ; the *Kuma* and *Terek*, further south, in *Caucasia*.

Lakes.—The lakes have already been sufficiently described.

Coast Line.—The Arctic Ocean, west of Nova Zembla, is navigable only three months in the year; but E. of this island it is at all seasons encumbered with icebergs. The islands of *Nova Zembla*, the most northerly inhabited land, *Spitz-Bergen*, and *Waigatz*, are only remarkable on account of their birds and cetaceous animals. On the Arctic shore, the transition from heat to cold, or *vice versa*, is often sudden and violent from the mere change of wind. Fogs and storms continue several days at a time. The Gulf of Finland, like the Mersey in England, is the great commercial highway of the N.W. of this country. In winter, however, it is generally frozen, when it is traversed by sledges. Only two or three of the Russian Baltic ports can be entered in winter. The strait of Kaffa, between the Black Sea and Sea of Azov, is so shallow that only small vessels can pass through.

The ports of southern Russia have deep harbours, yet navigation is often dangerous, owing to the violent storms, prevalent particularly about the equinoxes; and in winter snow storms are common. The Sea of Azov is shallow and ice-bound during the winter months. The commerce of the Caspian is local and limited.

Climate.—In the N., and even in the central districts, long and rigorous winters prevail, which often succeed great heat. The southern districts enjoy a sufficiently mild climate. The climate of Russia much resembles that of America, the cold in winter and heat in summer being equally intense.

Productions.—Russia has mines of gold, copper, platina, and iron in the Oural mountains, rich salt mines, abundance of the finest fish, plenty of wheat in the centre, and timber of the best quality.

Exports.—Wheat, tallow, hemp, flax, iron, copper, potash, furs, leather, timber, almost all unmanufactured.

Imports.—Cotton yarn, sugar, wine, silk, worsted goods, indigo, etc.

Commerce.—The Russian commerce is rapidly increasing. The value of the exports and imports is about £30,000,000. Manufactures of cotton, silk, and woollen fabrics, chiefly of the inferior kind, are carried on in the principal towns. Russian leather, arms of excellent workmanship, sail-cloth, and cordage, glass, soap, and jewellery are all produced here. The government of Moscow is the centre of the manufacturing industry.

Inhabitants.—A region of so vast extent, increased by conquest and not by colonies, will naturally be inhabited by very different tribes of people, particularly when their occupations are dissimilar. The following are the chief tribes:—the *Finns*, who occupy Finland and the western slope of the Oural mountains; the *Laplanders*, who dwell on the extreme north; the *Poles*, who occupy Poland, amongst whom

are many Jews ; the *Cossacs*, in the South (famous horsemen), another tribe, of whom are the *Circassians*, whose beauty is proverbial. Many of these tribes, such as the Cossacs, are in a semi-barbarous state. The Russians are in general hospitable, and are the most numerous class (49 millions), as well as the rulers.

Education.—There are eight universities in Russia : St. Petersburg, Moscow, Kharkov, Kasan, Dorpat,* Kiev, Helsingfors, and Odessa. Military schools are established at Petersburg and Moscow, and efforts are being made to instruct the better classes; but the serfs, an improvident race, are barbarously ignorant, and amongst them education has up to the present made but little progress.

SWITZERLAND.

Switzerland is bounded N. by Germany, S. by Italy, E. by Austria, and W. by France. On the N. the limits of the country are marked by the Rhine and Lake Constance ; the Alps, with Lakes Maggiore and Lugano, determine the Italian frontier ; and the Doubs, Jura mountains, and Lake Geneva, the French frontier.

Switzerland lies between the parallels of $45^{\circ} 50'$ and $47^{\circ} 50'$ N. latitude, and between the meridians of $5^{\circ} 58'$ and $10\frac{1}{2}$ E. longitude.

It is remarkable for majestic mountains, beautiful lakes, picturesque valleys, and numerous cascades. On the N. and W. are several plains, but in the S., centre, and on the borders, are mountains, covered in many places with perpetual snow, and enormous glaciers. On the sides of most of the mountains are excellent pastures, on which are numbers of sheep and cattle. Cheese is made in many places, and largely exported. The climate of Switzerland is of infinite variety. On the mountain summits perpetual winter reigns ; but in many of the valleys there is a delightful climate ; and tobacco, figs, and olives are there cultivated.

Switzerland is divided into twenty-two cantons, seven of which are watered by the Rhine, and eleven others, though not watered by this river, belong to its basin ; three belong to the basin of the Rhone, and one to that of the Ticino.

* A small inland town in Livonia, whose university was founded by the famous Gustavus Adolphus of Sweden, to which country this province then belonged.

CANTONS WATERED BY THE RHINE.

1. The **Grisons**, the largest canton (capital *Coire*, in German *Chur*), lie in the S. W., are traversed by high mountains, and are thinly peopled.

Coire (5,000) contains the whole trade of the district.

Splugen, a village, is at the entrance to the pass of this name.

2. **Saint Gall** is bordered on the E. by the Rhine, and extends as far as Lake Constance. It is drained by the *Thur*.

St. Gall (11,000), the capital, is S. of the Lake Constance.

3. **Thurgau** borders this lake on the S., and is traversed by the river *Thur*.

Frauenfeld, the capital, is a small town with silk factories.

4. **Schaffhausen**, the most northern part of Switzerland, lies N. of the Rhine.

Schaffhausen, the capital, stands on the Rhine, near some of its celebrated falls.

5. **Zurich**, further to the S., is one of the wealthiest cantons. It contains the beautiful lake of the same name.

Zurich (17,000), the capital, is in a delightful situation on the borders of the lake, and has silk manufactures.

6. **Aargau**, further W., lies S. of the Rhine ; is a district of considerable fertility, watered by the *Aar*, *Reuss*, and *Limmat*.

Aargau (5,000), the capital, is an industrious town on the *Aar*. *Baden*, on the *Limmat*, has renowned mineral waters.

7. **Basle**, in the N.W., with a generally level surface, is thickly peopled with an industrious race.

Basle (37,000), the capital, is an active town on the Rhine, with a university. It contains the tomb of Erasmus : Euler, and Holbein (the painter) were natives. *Liestal* is a small country town.

CANTONS IN THE RHINE BASIN, BUT NOT WATERED BY
THAT RIVER.

1. **Appenzell**, in the N.E., is surrounded by St. Gall ; has two divisions, Inner and Outer *Rhoden* ; the chief town of the former being *Appenzell*, and of the latter *Herisau*, which has cotton factories.

2. **Glarus** lies N. of the Grisons, and is mountainous, with some good pasture valleys. It exports green cheese.

Glarus (5,000), on the Linth, has cotton and cloth factories. Its Gothic church is used both by Catholics and Protestants. *Nafels* was the scene of a victory over the Austrians, 1388.

3. **Schwitz**, or **Schwyz**, has given its name to the whole country. It borders on Lake Zurich in the N., Lake Lucerne on the S., and Lake Zug on the W.

Schwitz (5,000) is a small town with a little trade.

4. **Uri**, further S., is traversed by the Reuss, and borders on Mount Furca.

Altorf (2,400), a large village, is the capital, and is interesting on account of its legends of the Swiss patriot, William Tell.

5. **Unterwalden** lies to the W. of Uri, and to the S. of Lake Lucerne. It participates with the two previous cantons in the glory of having founded the confederation.

It is subdivided into :—*Obwalden*, the capital of which is *Sarnen* (3,300), and *Nidwalden*, the capital of which is *Stanz* (2,000).

6. **Zug**, one of the smallest cantons, surrounds the lake of same name ; and has the most enchanting scenery.

Zug (4,000), the capital, is on lake of same name. On the borders is *Morgarten*, a mountain pass, where the Swiss defeated the Austrians, 1315.

7. **Lucerne**, near the centre, together with Uri, Schwitz, and Unterwalden, makes up the four forest cantons. The scenery here is delightful.

Lucerne (11,000) is a great centre of trade, and one of the three towns in which the Diet meets. It may be considered the Catholic capital of the country. Sempach was the scene of a victory of the Swiss over the Austrians, 1386.

8. Soleure, S. of Basle, runs along the Aar, and borders on France, being traversed by the Jura mountains.

Soleure, on the Aar, has a museum containing interesting collections. Olten, on the same river, is a great railway centre.

9. Berne extends from the French border to the Bernese Alps, and contains the pretty lakes, Thun, Brienz, and Bienne. This canton has beautiful plains in the centre, and immense glaciers on its southern mountains; the most remarkable being Grindelwald, and the Lauterbrunnen. The Aar traverses most of the canton.

Berne (30,000), the capital of the republic, is on a platform 1700 ft. above sea level, commanding delightful views. It has an active trade, and contains the senate-house. Thun, near the lake of the same name, contains the military school of the country. Interlachen is visited by numbers of strangers, who purchase wood carvings from the natives.

10. Freyburg, W. of the former, is much diversified in surface. It is traversed by the Saane, contains good meadow lands, and has many dairies. The *Gruyères* cheese is produced here.

Freyburg (10,000), on the Saane, has a most picturesque site. *Mora* was the scene of the defeat of Charles the Bold of Burgundy, 1476.

11. Neuchatel lies in the W., between the lake of this name and the Doubs on the French frontier, is traversed by the Jura, and has beautiful valleys, the most remarkable of which is *Val Travers*, now so well known. Until 1857 it belonged to the King of Prussia, as a principality.

Neuchatel (10,000), on the lake of same name, exports wine, and has great industry in watch-making, which is the principal handicraft of the whole canton. Chaux-de-Fonds (10,000) and Le Locle (15,000) are also engaged in watch-making.

CANTONS BELONGING TO THE RHONE AND TICINO.

1. **Valais*** extends along the valley of the Rhone, and is one of the most romantic regions in the world, consisting of a "great trough" 70 miles long, 2 wide, and half a mile deep, bordered on the N. by the Bernese, and on the S. by the Pennine and Lepontine Alps, including the mountains Simplon and St. Bernard, from which rapid torrents descend.

Sion (4,000), the capital, on the Rhone, is an inconsiderable town amidst nice scenery. **Leuk**, on the same river, is near the celebrated mineral springs of **Leukerbad**, at the foot of the Gemmi pass across the Bernese Alps.

2. **Vaud**, on the W., runs along the N. shore of Lake Geneva, and was admitted into the Swiss Confederation in 1798.

Lausanne (20,000), on Lake Geneva, has a beautiful situation. It has a cathedral, a museum, and a college; and its inhabitants are engaged in watch-making. Here Gibbon completed his history, and here Voltaire long resided. **Vevay**, in the centre of orchards and vineyards, has manufactures of cigars. **Granson**, on the W. of the lake, was the scene of a victory of the Swiss over the Burgundians, 1476.

3. **Geneva**, in the S.W., though one of the smallest, is one of the most important of all the cantons. It is watered by the Rhone.

Geneva (41,000), the largest town in Switzerland, is remarkable for the enterprise, industry, and literary taste of its inhabitants. The chief manufactures are watches, chronometers, musical boxes, mathematical instruments, and jewellery. It stands on the Rhone where it issues from Lake Geneva, and is a fast improving place.

4. **Tessin** lies on the Italian border, with an Italian climate and language. It slopes from Mount St. Gothard to Lake Maggiore, into which flows the Tessin or Ticino, the chief river of the canton.

* The inhabitants are afflicted by two diseases which are very prevalent—*goitre*, or a malformation of the neck, and a kind of idiocy called *cretinism*.

Bellinzona (2,000), on the Ticino, has three old castles, and is very much Italian in style.

Lacarno (3000) stands on the N. shore of the lake Maggiore, and **Lugano** (5,400) is built on the lake of the same name.

Mountains.—The chief Alpine chains have been given. About two-thirds of the surface of the country is covered with mountains, the culminating point, irrespective of border chains, being *Finster-Aarhorn*, a needle-shaped peak (14,300 feet). Among the chief peaks may be named—the *Matterhorn* (14,836 feet), the *Jung-frau*, or “Maiden” (13,720 feet); the *Wetterhorn*, or “Peak of Tempests” (12,200 feet); the two *Schreckhorner*, or “Peaks of Terror” (13,400 feet); the *Monk* (13,500); the *Great Eigher*, or “Giant” (13,075 feet).

The snows which accumulate on the mountains often fall or glide down their precipitous sides, causing serious injury to the dwellings beneath—such a snow-fall is called an *avalanche*. At the bottom of the *glaciers*, “seas of ice,” are stones and earth, often the debris of avalanches, called *moraines*. Sudden thaws on the mountain tops produce floods in the valleys. *Landslips* are also very dangerous, but of rare occurrence. One of these, in 1806, covered the village of Goldau. The most remarkable *gorges* are in the valley of the Rhine near *Tusis*, called *Via Mala*, and *Gondo*, at the head of the Simplon Pass. Among the waterfalls, *Staubbach*, or “Dustfall,” which falls in a shower of spray a distance of 850 feet, is the most remarkable. Two other falls, the *Grimsel*, at the head of the Aar valley, and the *Aar*, at Handek, are also worthy of note.

Railways.—The lakes have usually steam communication. “The plain is now overspread from one end to the other with a network of railways, which in many directions send ramifications into the Alpine valleys.”

Rivers.—The waters of Switzerland are not only sent to the North Sea and Mediterranean by the Rhine and Rhone, but are also conveyed to the Adriatic by the Ticino, and to the Black Sea by the Inn.

The *Aar* rises in a glacier in the Bernese Alps, descending rapidly to L. Brienz, and then to L. Thun. Proceeding N.W. it is joined by the *Saane*, turning N.E. it receives the *Thiel* from L. Neuchatel. It also receives the Reuss, an impetuous and picturesque stream rising in Mount St. Gothard, and passing through L. Lucerne. The *Limmat*

passes through L. Zurich, and joins the Aar in Aargau. The Aar finally turns N. and joins the Rhine at Waldshut, both streams being now nearly equal in volume. The *Rhone*, which rises in Mount Furca, receives the *Arve* near Geneva. The *Ticino* belongs more to Italy, and the *Inn* to Austria.

Lakes.—The Swiss lakes are remarkable, in most instances, for their sublime beauty. They have been already mentioned with the cantons which border on them.

The Minerals are unimportant.

Industries.—*Manufactures* consist of silks at Zurich and Basle; cottons at St. Gall and Appenzell; straw plait in Aargau and Lucerne; watchmaking at Neuchatel and Geneva. During the summer the cattle are driven into the mountain districts, and herdsmen, living in wooden huts, called *chaléts*, make the butter and cheese. Wood-cutting, both for fuel and exportation, is a chief industry.

Education.—Elementary instruction is widely diffused, and the attendance at school of children from five to eight years of age compulsory. There are universities on the German model at Basle, Berne, and Zurich, and colleges on the French model at Geneva and Lausanne.

ASIA.

Asia, the largest and most populous of the great divisions of the globe, extends from Cape Baba, the most western, to E. Cape, the most eastern point, 6,000 miles ; and from Singapore, the most southern, to Cape Sievero, the most northern point, 5,500 miles.

It lies between 1° 20' and 78° N. latitude, and between 26° and 170° W. longitude, or 190° E. longitude ; and is bounded on the N. by the Arctic Ocean, E. by the Pacific, S. by the Indian Ocean, and W. by Europe, the Mediterranean, and Red Seas. The population, according to the latest and best authorities, is 720 millions.

TABULAR VIEW OF THE ASIATIC COUNTRIES.

State.	Square Miles.	Population.	Capital.
Turkey in Asia, -	478,767	15,563,000	Smyrna, on Smyrna Bay.
Arabia, - - -	1,175,719	5,200,000	Mecca.
Persia, - - -	648,000	10,000,000	Teheran.
Beloochistan, -	192,000	2,000,000	Kelat.
Afghanistan, - -	210,000	5,120,000	Cabool, on the Cabool.
India, - - -	1,579,972	195,200,000	Calcutta, on the Hooghly.
Nepaul, - - -	54,500	1,940,000	Khatmandoo.
Bhotan, - - -	19,800	1,000,000	Tassisudon.
Burmah, - - -	184,000	8,000,000	Montchobo.
Malaya, - - -	35,000	200,000	Perak, etc.
Siam, - - -	261,800	6,000,000	Bang-kok.
Cambodia, - - -	32,379	1,000,000	Udong.
Cochin China (French),	21,716	979,116	Saigon, on the Saigon.
Annam, - - -	174,000	16,000,000	Hué, on the Hué.
China, - - -	3,663,000	395,110,000	Pekin, on the Peiho.
Turkestan, - - -	493,000	3,000,000	Bokhara.
Thian-Shan, - -	490,000	5,500,000	Yarkand.
Russian Asia, - -	5,800,000	7,900,000	Tobolsk.
Japan, - - -	169,000	40,000,000	Yedo, on isle Nipon.

Surface.—The table-lands are computed to cover two-fifths of the whole continent ; and this elevated mass is

divided into two parts by the Hindoo-kush mountains. The eastern plateau consists of the desert of Gobi and the table-lands of Thibet, and extends E. to the G. of Tonquin, and S. to the Himalayas. The height varies from 6,000 to 18,000 feet. The western plateau rises from 5,000 to 7,000 feet above sea-level, but descends to about 1,200 feet in the S. This region includes the Armenian mountains, with the highlands of Anatolia. Asia has six great lowlands—(i.) *Siberia*, in the N., by far the largest; (ii.) the wild waste between the Caspian Sea and L. Aral, called the *Bucharian* lowland, a part of which is below sea-level; (iii.) the *Syrian* and *Arabian* lowland, the S. of which is an arid plain, and the N. watered by the Tigris and Euphrates; (iv.) the *Indian* lowland, including the Indian desert, and the rich valley of the Ganges; (v.) the *Indo-Chinese* lowland, including the valleys in Burmah, Cambodia, and Siam; (vi.) the *Chinese* lowland, which, with the most productive soil on the globe, is about as large as France, and includes most of the E. of China S. of Peking.

Seas.—The principal are: the Red sea, the Arabian, Chinese, Eastern, and Yellow seas, the seas of Japan, Okhotsk, and Kamtschatka.

The **Red Sea**, or Arabian Gulf, stretches from the Isthmus of Suez to the Straits of Babel-mandeb, about 1,400 miles, with a breadth varying from 230 to 20 miles. On the N. it divides into the Gulfs of *Suez* and *Akabah*, separated from each other by the peninsula of Sinai. The depth varies much, the shallowest part being the Gulf of Suez, from 40 fathoms at its entrance to 3 at the harbour of Suez. Since the opening of the Suez Canal this sea has become a great highway for shipping with the East, though, on account of the number of islands and the prevalence of violent winds, navigation is rather difficult.

The **Arabian Sea** is properly a bay of the Indian Ocean, lying between Arabia and India, with two great branches—the Persian Gulf and the Red Sea. The trade winds blow here with great regularity.

The **Chinese Sea** lies S. of China and E. of Cochin China, N. of Borneo, and W. of Luzon.

The **Eastern Sea** lies E. of China; and N. of it, between China and Corea, is the **Yellow Sea**. The **Sea of Japan** separates the continent

from the Japan Isles; and the Sea of Kamtschatka is between the peninsula of the same name and the island of Saghalien. Behring's Sea separates Asia from America, being shut in by the Aleutian islands.

Islands.—The groups of islands in the S.E., between the Pacific and the Indian Oceans, are now usually classed with Australia. In the Arctic Ocean are the barren islands, *Liakov*, and *New Siberia*; in the Mediterranean, *Cyprus* and *Rhodes*; S.W. of India, the *Laccadive* and *Maldiv*e groups; *Ceylon*; in the Bay of Bengal, the *Andaman* and *Nicobar* isles; *Hainan*, *Hong Kong*, and *Formosa*, off the coast of China; the *Loo Choo*, *Japan*, and *Kurile* isles; and the island *Saghalien* off the E. coast of Asia.

Peninsulas.—The chief are: *Asia Minor*, *Arabia*, *Hindoostan*, *Malaya*, *Cambodia*, *Corea*, and *Kamtschatka*.

Capes.—The chief are: *Baba*, in Turkey; *Ras al had*, in Arabia; *Negrais*, in Pegu; *Comorin*, S. of India; *Romania*, in Malacca; *Camboja* point; *Lopatka* and *Kronotski*, in Kamtschatka; *East* and *North* capes, and *Cape Sievero* on the North.

Gulfs and Bays.—The *Levant*, *Suez*, *Akabah*, and *Aden*, on the W.; the *Persian* gulf; gulfs of *Cutch*, *Cambay*, and *Manaar*, in India; *Martaban*, in Further India; *Siam*, in S. of Siam; *Tonquin*, E. of Annam; *Pechili*, E. of China; *Tartary*, W. of Saghalien; Gulf of *Anadyr*, at Behrings-strait; and the gulfs of *Obi* and *Yeneisi*, on the N.

Straits.—The *Bosphorus*, *Dardanelles*, and *Babel-Mandeb* on the W.; *Ormuz*, *Palk's*, *Malacca*, and *Hainan*, on the S.; *Formosa*, *Corea*, *Sangar*, *Perouse*, and *Behring's* straits on the E., the latter separating Asia from America.

Mountains.—The chief are: the *Himalayas*, N. of India; the *Altai*, S. of Siberia. These ranges are connected on the W. by the *Korakorum*, N. of Cashmere, the *Bolar Tagh*, and the *Thian Shan*, E. of Turkestan. The continuation of the *Korakorum* W. is called the *Hindoo Koosh*, and E. the *Kuin Jun*, which further E. is called *Nan Shan*. In India are the

East and West Ghauts ; in Arabia, mount *Horeb* ; in Turkey, mounts *Lebanon* and *Ararat* ; in Persia, the *Elburz* ; in Central China, *Sin Ling* and *Kingan* ; in E. Siberia, *Yablanoi* and *Stanovoi* ranges. The border ranges, Ural and Caucasian, have been described.

The loftiest mountains on the surface of the globe are the *Himalayas* ("the abode of snow"), which are some 80 or 90 miles broad, and reach above the clouds when viewed at a distance, the highest summits being covered with snow. Their length is almost 1,500 miles, and the mean elevation from 16,000 to 18,000 feet, 45 peaks reaching 23,000 feet. On the Indian side, at the base, is an exceedingly unhealthy region. The snow line on the S. is 16,200 feet, and on the N. 17,400 feet, the dry atmosphere of Thibet causing an accumulation of heat. Glaciers are found above the snow line. Several of the passes are closed with snow from November to May. The highest used for foot passengers is *Parang* (18,500 feet). The tea plant can be reared on the S. side to the height of 5,000 feet. Tigers and monkeys are found above 1,000 feet from the base ; leopards and snakes still higher.

The *Altai* ("gold mountain") ranges form the boundary between the Russian and Chinese empires. Their breadth reaches in some places several hundred miles, and the chain bears different names. The Great Altai reach the height of perpetual snow, and overhang the desert of Gobi. The Russian Altai abound in mineral wealth, containing gold, silver, copper, and lead. The most of the inhabitants lead a nomadic life, dwelling in summer among the rich pastures with their cattle, and in winter in the shelter of the well-wooded glens.

A description of the other mountains will be given with the countries to which they belong. ,

Rivers flowing south are : the *Tigris* and *Euphrates*, into the Persian Gulf ; the *Indus*, into the Arabian Sea ; the *Godavery*, *Ganges*, *Brahmapootra*, and *Irrawaddy*, into the Bay of Bengal ; and the *Cambodia*, into the Chinese Sea. Flowing E. are the *Canton*, *Yang-tse-Kiang*, *Hoang-ho*, and *Amour*, in China. Flowing N. are the *Lena*, *Obi*, and *Yenisei*. Flowing into the Caspian Sea, are the *Aras*, and *Atrek* ; and flowing into the Sea of Aral, the *Amoo*, and *Sir Daria*.

The *Ganges*, the most important of the Asiatic rivers, rises in the Himalaya mountains, has a course of 1,500 miles, and receives in passing through the plains eleven rivers, none of which are smaller than the Thames, and some of them even equal to the Rhine. About

200 miles from the sea it divides into from 12 to 20 mouths, which form its delta, and through these mouths it discharges into the Bay of Bengal. The district of the delta is called the *Sunderbunds*; it is covered with long grass, vegetable matter, and copse-wood; a secure haunt for crocodiles, tigers, and other wild animals, which exist here in great numbers. In the rainy season the Ganges, like the Nile, overflows its banks, and inundates the surrounding country; but, although this benefits the soil, many lives are lost, and much property destroyed. The Ganges is regarded by the Hindoos with peculiar veneration; particularly so at Hurdwar, where the river first issues from the mountains. The Hindoos are in a court of justice sworn on its sacred waters, as are the Christians on the Gospels, and the Moham-medans on the Koran. Great changes are made in the surrounding country by the Ganges; old channels are filled up with mud and sand, and new ones are formed. These changes take place during the inundations, when the current is rapid and powerful. The tide ascends this river with great force; and in the principal branch, called the Hooghly, a "bore" is formed. The principal tributaries of the Ganges are, on the south side, the *Jumna* and *Chumbut*, and on the northern, the *Gogra* and *Goomtee*. The towns on its banks are Calcutta, Patna, Benares, Allahabad, Cawnpore, and Hurdwar.

The Indus rises in the highlands of Tibet, and after traversing the fertile vale of Cashmere, flows south, and receives the five rivers of the Punjaub, viz., the *Ravee*, *Chenab*, *Sutlej*, *Beas*, *Jhelum*. It pursues a parallel course to the Suliman mountains, and after 1,700 miles flows into the Indian Ocean by several mouths. It is a longer river than the Ganges, but its body of water is much less, and the country it drains is more contracted. The district of Scinde, through which it passes, is fertile, but this is succeeded by a desert region stretching towards the east, and extending nearly to the mouth of the river. Kurrachee is an active port north of the river, and Hyderabad is on the main stream.

The Irrawaddy rises in the plateau of Tibet, and flows south through Burmah and Pegu into the Gulf of Martaban. It is supposed to have a course of 1,200 miles, nearly equal to that of the Ganges. Little is known regarding its upper waters. Along the lower course it passes through a thickly wooded country, flat, damp, and unhealthy, and inhabited by an indolent and jealous race, who throw every obstacle in the way of foreigners who seek to open up the trade or explore the country. Many attempts have been made to enter China by this river, and a subsequent overland route, but all have hitherto failed, owing to the hostility of the chiefs of the interior, instigated, probably, by the Chinese.

TURKEY IN ASIA.

Turkey in Asia extends from the 42nd parallel on the N. to the 30th on the S. ; and from about 26° to 48° east longitude. It is washed by five seas : the Black Sea, Marmora, Archipelago, Mediterranean, and Persian Gulf ; and includes the islands of Cyprus, Rhodes, Kos, Samos, Scio, Mytilene, with several smaller ones. It borders on Arabia and Egypt at El Arish ; on the Levant ; on Caucasia, midway between Gunieh and Poti ; on the Black Sea ; and on the Persian Gulf at the mouth of the Shat-el-Arab. From Cape Baba to the Persian Gulf is 1,400 miles, and from Sinope on the Black Sea to the isthmus of Suez is 850.

Three physical districts are distinguished : (i.) The highlands of Armenia and Asia Minor. (ii.) The district along the shores of the Mediterranean. (iii.) The lowlands watered by the Tigris and Euphrates in the S.E. In the W. most of the country slopes from Mount Taurus towards the Black Sea. No large rivers, with the exception of the Tigris and Euphrates, are found in this extensive country, the others being mostly mountain streams.

The following are the usual divisions :—

I. *Asia Minor* or *Anatolia* ; (ii.) *Turkish Armenia* and *Kurdistan* ; (iii.) *Mesopotamia* or *Al Jezireh*, and *Irak Arabi* or *Babylonia* ; and (iv.) *Syria*, including *Palestine*.

Asia Minor is a peninsula watered by the Black Sea on the N., and the Mediterranean on the S., and extending as far as the Euphrates. In the interior are elevated plains, though treeless on the top, consisting of good pastures. The slopes of the table-lands and lower hills are well wooded, particularly near the Black Sea, where productive coal mines are worked. Rich mines of copper and lead are also found in many places. An extensive tract N. of Mount Taurus “is covered with salt marshes, lakes, and rivers, possessing no visible outlet.”

DIVISIONS OF ASIA MINOR.

Governments.					Capitals.	Population of Capitals.
Smyrna,	-	-	-	-	Smyrna,	150,000
Khodavendiklar,	-	-	-	-	Brusa,	100,000
Konieh or Karaman,	-	-	-	-	Konieh,	50,000
Angora or Bozok,	-	-	-	-	Angora,	10,000
Kastamuni,	-	-	-	-	Kastamuni,	12,000
Sivas or Room,	-	-	-	-	Sivas,	25,000
Trebizond,	-	-	-	-	Trebizond,	45,000
Cyprus, etc.,	-	-	-	-	Nicosia,	12,000

Smyrna lies in the S.W. It has several deep gulfs, with islands along its coast line, which is the most irregular in Asiatic Turkey.

Smyrna stands at the head of a gulf of the Archipelago, and has among its inhabitants merchants of every country in the world. The Turks call it *Ismir*, "the lovely." It claims to be the birth-place of Homer. It has six newspapers, published in five different languages. It has immense exports of dried fruits, as well as silk, raw cotton, goats' hair, and skins, olive oil, drugs, and gums.

Aidin (30,000) is connected with Smyrna by a railway, and formerly sent out daily 2,000 or 3,000 camels laden with fruit. **Manissa** (20,000), N. of the capital, is famous for its loadstones—hence called magnets.

Khodavendiklar lies N. of the former, and S. of the sea of Marmora.

Brusa (60,000), at the base of Mount Olympus, has thermal waters, splendid gardens, and 365 mosques. In 1855 it was nearly destroyed by an earthquake.

Scutari or **Iskudar** (60,000), immediately opposite Constantinople, has a beautiful site. Here are the Sultan's palace and gardens, a college and barracks. In 1854 an Anglo-French hospital for the allied army in the "Crimean War" was formed here.

Kuytayah (50,000), a well-built city in the interior, is the chief seat of the Turkey carpet manufacture. The military government of Asia Minor resides here. **Mualitch**, W. of Brusa, exports raw silk and wool.

Karaman, on the Mediterranean coast, is traversed by the Taurus, which approaches near the sea, and surrounds the Gulf of Adalia.

Konieh stands in the fertile plain, has various manufactures, and meerschaum quarries in the vicinity. It is the ancient *Iconium*.

Adalia, on the gulf of the same name, is a thriving port. **Karaman** (7,000) is a scattered town, with manufactures of blue cotton cloth.

Angora is N. of Karaman, and is an entirely inland province, divided into two almost equal parts by the River *Kizil Irmak*.

Angora occupies a high site in the interior, and has many antiquities. On the plain around are fed the silky-haired goats, whose wool is a valuable article of commerce.

Kaisarieh (25,000) is situated in a fertile plain, in the midst of cotton plantations : nut-galls and madder are exported.

Kastamuni lies along the Black Sea, chiefly W. of the River *Kizil Irmak*, and has a very diversified surface.

Kastamuni, at 2,500 feet above sea level, has public baths, trade in wool, and manufactures of printed cottons.

Sinope (10,000) is a good port on the Black Sea, nearly opposite Sebastopol. In its bay, the Russian fleet, which had issued from the latter, November, 1853, attacked and destroyed thirteen Turkish vessels lying at anchor. **Erekli** or **Eregri** (2,000) has manufactures of morocco leather.

Sivas, stretching from the above-named province S.E., is crossed by the *Anti-Taurus* mountains.

Sivas (30,000) stands in a fertile plain, and has considerable transit trade.

Tokat (30,000), a commercial town and a great agricultural depot, is situated in a romantic valley, and has carpet, woollen, linen, and silk trade. **Amasia** (18,000) has great trade in raw silk, and was once the capital of the kings of Pontus.

Trebizond lies along the S.E. shore of the Black Sea, and is generally mountainous.

Trebizond (30,000), one of the four great ports of Turkey in Asia (the others being Smyrna, Beyrout, and Bassora), is walled and

entered by six gates. It contains eighteen mosques, and some Catholic and Greek churches. It has linen and cotton manufactures, and its commerce is very extensive.

Risah or **Rizeh** (25,000), near the mouth of the river of the same name, has trade in copper. **Bateum** (3,000), with the best harbour on the Black Sea, has trade in cattle and fruits.

Cyprus, about 60 miles from the coast, extends from N.E. to S.W., for 120 miles, in which direction two chains of mountains run, with a plain between, watered by the River *Pedia*. It has belonged to the Persians, Greeks, Romans, Crusaders, and Venetians, from whom it was taken by the Turks in 1570. It forms a separate government. The soil is fertile, and produces cotton of the best quality, fruits and wines, with timber from the mountain sides. Game and fish are plentiful, but snakes and venomous spiders are too numerous to be agreeable. Rain is rare in summer. The population is under 200,000.

Nicosia (12,000) is inhabited more by Greeks than Turks. It is near the centre of the island, is walled, and has trade in carpets and leather. **Famagusta**, on the S.E. coast, is a decayed port. **Larnika** is the residence of factors, and most of the consuls. It is a bustling place, with good trade. **Salines** is its port. **Cerini**, on the N. coast, has some trade with the mainland.

Rhodes is the next most important island. It has an area of 420 square miles, and a population of 30,000. This island is traversed by a well-wooded mountain range in the direction of its length. The climate is delightful. Three-fourths of the inhabitants are Jews and Greeks, and the remainder Turks. In the middle ages it was the stronghold of the Knights of St. John.

Rhodes (10,000), the capital, is in the N. of the island. It was held by the Knights from 1308 to 1522.

The other islands are equally fertile, and enjoy a magnificent climate.

The chief are : *Cos* ; *Samos*, renowned for its pottery ; *Scio*, or *Shios*, whose inhabitants (120,000) were, in 1822, either all massacred by

the Turks or sold as slaves; *Mytilene*, or *Lesbos*, once famous for its wine; *Patmos*, a rocky islet, to which St. John was banished, and where he wrote the Apocalypse.

The second great division is **Armenia and Kurdistan**, which border on Russia and Persia, the surface of the former being generally rugged and mountainous, and of the latter, a continuation of the highlands beyond the Tigris, which, as well as the Euphrates, has its source in this district. This country is subject to an E. wind called *sherki*, the terror of the inhabitants.

Erzeroom or **Turkish Armenia** stretches N. and S., and includes Mount Ararat on its eastern border. It contains Lake Van, and is traversed from E. to W. by the Euphrates.

Erzeroom (40,000), is a great centre of trade, and stands on a plateau several thousand feet above sea level. It has a severe winter. Morocco leather, swords, and carpets are the chief manufactures. It is a great halting place for caravans.

Kars (12,000) is among high hills in the N. of the province. In 1855 it made, under General Williams and a Turkish garrison, a gallant defence against the Russians. **Bayazid** (5,000) is near the pass of Mount Ararat. **Van** (20,000), E. of the Lake Van, has cotton manufactures. **Erbil** (Arbela) was the scene of the defeat of Darius by Alexander the Great.

Kurdistan lies to the S.W., and includes the provinces of *Kharput* and *Kurdistan*, the former traversed by the Euphrates and Mount Taurus, and the latter by the Tigris.

Kharput, in the Euphrates valley, is an important place.

Diarbekr (12,000), on the Tigris, is surrounded by a wall, has handsome houses, but narrow streets. It has some trade with Syria.

Orfah (12,000) is the famous "Ur of the Chaldees" of Scripture.

Mesopotamia and Irak Arabi: the former, almost wholly included between the Tigris and Euphrates, extends from the mountains of Armenia to that portion of these two rivers where they begin to approach each other (hence its name); and some geographers consider it as extending to

the Persian Gulf, and including Irak-Arabi. The former is also called *Al-Jézireh*, and the latter *Babylonia*. This district is mountainous and undulating where it borders on Armenia, with forests of pine, oak, and chestnut on the hills. But the remainder is very level, and of alluvial soil near the banks of the rivers, but desert-like in other places.

Mosul (40,000), on the Tigris, is the centre of great caravan trade, and was once famous for the manufactures of muslins, so named from the town. On the opposite side of the river are several mounds, which mark the ruins of ancient *Nineveh*.

Baghdad (60,000) is a walled city, on both banks of the Tigris. It was once a city of great importance. It has some fine shops and tastily erected residences, a governor's palace, and 100 mosques. Bassora or Basra (60,000) is the great emporium of trade with India. Its streets are dirty, but its commerce is very active. Caravans proceed to Aleppo and Baghdad, and vessels of 400 tons come up the Shat-el-Arab, on which it stands. Hillah (10,000) stands among the ruins of ancient Babylon, one of the most magnificent cities of the ancients. It is on the Euphrates.

Syria, including Palestine, runs along the E. of the Mediterranean, and extending towards the *Euphrates*, having no well-defined eastern boundary. Along the coast is a narrow strip of lowland, a little inland a mountainous belt, and still further inland, a desert table-land. The mountain range is divided into *Lebanon*, near the coast, and *Anti-Lebanon*, further inland on the northern boundary of Palestine. The two chief rivers are the *Orontes* and the *Jordan*.

Syria touches the Alma Dagh mountains on the N., and the Mediterranean on the W. On the N.E. frontier is the Euphrates. The surface is very uneven, and the climate and productions vary greatly. While some of the highest mountain peaks are covered with snow, vines, oranges, and dates flourish along the coast. The corn is ripe in May. Heavy rains fall in spring and autumn, and the trees only drop their leaves at the end of November. Cotton, wheat, silk, tobacco, barley, maize, and timber are the chief pro-

ductions. The minerals are confined to a little iron and coal. The chief trade is with Great Britain.

For administrative purposes Syria is divided into three provinces:—*Haleb*, *Saida*, and *Scham* or *Syria proper*, with Aleppo, Beyrout, and Damascus for their respective capitals. Haleb lies around the gulf of Iskenderoon, and includes the greater part of the Syrian desert, which borders on the Arabian desert, where the boundary is not well established.

Haleb or Aleppo (80,000) stands on eight small hills, with a few bare rocky heights at a short distance, with the snow-clad Taurus peaks to the N. W., and the Syrian desert to the E. It has an old castle. Its houses are flat-roofed and rise in terraces along the hill sides. The Jews and Europeans have distinct quarters. The famous gardens are nearly twelve miles to the S. E., and consist of orchards, and kitchen gardens, with some flower-beds interspersed. It has cloth factories, dye-works, soap and rope-making.

Iskenderoon or Scanderoon (4,000) is the port of Aleppo, and though in a very unhealthy situation, has active trade. **Antakia or Antioch** (9,000), on the Orontes, is surrounded by walls, beyond which the city in some places reaches. It was called the "Queen of the East" from its ancient splendour, and here was first applied the term *Christian* to the early disciples.

Damascus (150,000) stands on an extensive and fertile plain, and was formerly remarkable for its sword blades. It has manufactures of gold and silver ornaments, sabres, silks, damasks, and cottons, with woollens. It is the residence of the governor, and the centre of great trade.

Homs (20,000), on the Orontes, has active trade.

Beyrout, or Belrout (12,000), at the head of an open bay, is the port of Damascus, a clean, healthy town, which, though possessing only a shallow harbour, has good anchorage in the outer bay.

Jerusalem* (10,000), the scene of the most important events recorded in Sacred History, is situated about 2,500 feet above sea level, and formerly stood on four hills, Zion, Moriah, Acra, and Bezetha. On the E. rises Olivet, from which there is an extensive

* PALESTINE no longer exists as a political division. It lay along the Mediterranean shore, S. of Mount Lebanon, and W. of the River Jordan, and was about 145 miles long and 50 broad. This, the "Holy Land," the "Land of Israel," Ancient Canaan, contains at present only 15,000 Jews, out of a total population of 2½ millions. In the days of its prosperity it extended beyond these limits, and from its extraordinary productiveness it is computed to have supported a population of 7 millions.

The first marked physical characteristic is the *Valley of the Jordan*, which widens from 5 miles in the N. to 20 at the river's mouth, where it opens upon the plains of

view. Modern Jerusalem stands in a great measure on the site of the ancient city, and is paved with large stones ; streets narrow and rugged. This city was destroyed by the Romans under Titus, A.D. 70. In 614 it was captured by the Persians, and twenty-three years after by the Saracens. In 1099 it was taken by the Crusaders, but retaken in 1187, by the Turks, to whom it has since belonged. Among the interesting places in the neighbourhood of ancient Jerusalem, may be named, *Bethlehem*, the birth-place of our Saviour; *Bethany*, where he raised Lazarus from the dead, etc., etc.

Hebron or **Kirjath-Arba** (8,000) is perhaps the oldest city in the world, and contained the "Cave of Machpelah," the sepulchre of the patriarchs. David resided here for seven years before he became king of all Israel.

Palmyra contains the ruins of an ancient city, 120 miles N.E. of Damascus. It was called *Tadmor in the wilderness*, from its situation in the Syrian desert. **Tripoli** (15,000), at the foot of a spur of Mount Lebanon, is a good port. **Latakia** (7,000) is noted for its tobacco. **Saida** or **Sidon**, with a splendid harbour, had once extensive trade. **Nablous** (7,000), the ancient Schechem, stands at the foot of Mount Gerizim. **Gaza** (16,000) is a stopping place for caravans between Syria and Egypt. It was the scene of some of Samson's exploits, and death, and was then a chief city of the Philistines. **Jaffa** or **Joppa** (3,000), with trade in fruits and corn, was the place where St. Peter had the significant vision, and where Jonah embarked.

Akka or **Acre**, or "St. Jean d'Acre" (10,000), stands on the N. side of the bay of Acre, which lies N. of Mount Carmel; it is best known for its sieges. It was taken by the Crusaders under Richard I. in 1191, and held by the Christians 100 years, after which it was retaken by the Saracens. In 1799 Napoleon I. besieged it for sixty-one days, when it was successfully defended by a Turkish garrison aided by some British sailors, under Sir Sydney Smyth. In 1832 it was taken by the Pasha of Egypt's son; but in 1840 it was bombarded by a British and Austrian fleet under Admiral Stopford, and restored to the Turks.

Moab and Jericho. The channel of the river is 30 feet lower than the valley. The second feature is the central table-land, a continuation of Mount Lebanon, and containing Mounts *Hebron*, 3,029 feet; *Olives*, 2,398 feet; *Gerizim*, 2,000 feet; *Tabor*, 1,905 feet. The third division is the *Littoral Plain*, along the sea coast.

At the birth of our Saviour Palestine belonged to the Romans, and was divided into four parts: *Gulilee*, in the N.W., bordering on the sea of same name; *Samaria*, further S., on the W. of the Jordan; *Judea*, still more S., bordering on the W. coast of the Dead Sea; and *Peræa*, which was E. of the Jordan. It had been previously divided among the Twelve Tribes of Israel.

Mountains.—The chief are: *Taurus*, S., and *Anti-Taurus*, E. of the table-land of Asia Minor; Mount *Libanus* and *Anti-Libanus*, near the E. coast of the Mediterranean; the Armenian mountains, including *Ararat*, *Olympus*, and *Ida*.

Taurus runs along the S. of Asia Minor in an irregular line, bearing a different name in some parts of the chain towards the W. *Anti-Taurus* runs N.E. until it meets the mountains of Armenia, the highest point in the one being *Metdesis*, 11,700 feet, and in the other *Arjish-Tagh*, 13,000 feet.

Olympus (9,000), covered with snow the greater part of the year, is of historical celebrity. Mount *Ararat* (17,200 feet) is held in veneration as the place where Noah's Ark rested. Mount *Ida* (7,200 feet) is about 30 miles from the site of ancient Troy. The chain called *Ala Dag* is in the N.W. of Asia Minor.

Rivers.—The *Euphrates*, *Tigris*, *Shat-el-Arab*, *Kizil-Irmak* (flowing from Mount Taurus to the Black Sea), the *Sakaria* (into the same sea), the *Meinder* (into the Archipelago), the *Orontes*, and the *Jordan*.

The *Euphrates*, called by the ancients the "Great River," is formed of two streams from the Armenia mountains, the *Kara Su* and *Murad*. This river bursts through the Taurus, flowing 45 miles among the mountains. For some distance it forms the boundary between Syria and Mesopotamia. Its total length, including that of the *Shat-el-Arab*, is 1,600 miles.

The *Tigris* rises in the mountains of Kurdistan, flows S.E. to *Diarbekr*, then about 100 miles E. to *Til*, where it receives the *Bitlis*, now turns S.E. through wastes until it joins the *Euphrates* at *Kurna*, when the united streams take the name *Shat-el-Arab*, which enters the Persian Gulf by several mouths. Mosul, Bagdad, and the ruins of Nineveh, are also on the *Tigris*.

Lakes.—Lake *Van* is among lofty mountains; is salt; has pumice stone along its shores; is 70 miles long, with an area of 1,200 square miles.

Lake *Tiberias*, sea of *Galilee*, or lake *Gennesereth*, forms an expansion of the *Jordan*, and was frequently crossed by the Apostles. It is subject to quick and violent gales, which do not long continue. Its waters are fresh, and fish are abundant. It is 14 miles long and 8 miles broad.

The *Dead Sea*, or Lake *Asphaltites*, "Lake of Bitumen," has lofty

rugged hills on the E., and less steep ones on the W. The waters are said to be so salt that men float on the surface like corks. The water contains no living thing. It is 40 miles long, and 8 to 9 broad.

Coast Line.—The S. coast of Asia Minor has an irregular outline, with a bold surface to the sea, while on the W. nothing can be more irregular, with deep bays and projecting peninsulas. The Dardanelles is a strait 40 miles long and in one place only two broad. The western shores of the Black Sea are low, though the mountains are not far from the shore; but as we proceed E., the high ground becomes very close to the shore, and very deep water near the land.

Inhabitants.—The inhabitants of the Turkish Empire consist of various races, brought together by accident or conquest, hence possessing very few kindred features. The *Turks*, though the ruling race, are a small percentage of the inhabitants of Asia Minor and Armenia. As a rule, they are honest, frank, temperate, and hospitable, though much given to indolence. Closely allied to these are the *Turcomans*, who lead a nomadic life in Armenia and on the table-land of Asia Minor. The *Arabs* form an important element of the population of Syria, Palestine, and Irak-Arabi. Closely allied to these are the Maronites, who occupy the hill country between Beyrout and Tripoli, and are so named from Maron, who converted them to Christianity in the fifth century. The *Druses*, a kindred tribe, live chiefly in Mount Lebanon. The Greeks form the bulk of the population in Asia Minor, the Caucasians dwell in Armenia, and the Jews are spread all over the empire.

ARABIA.

Arabia is essentially a region of steppes and deserts, with a fertile district near the coast. Its length, from north to south, is about 1,500, and its breadth 800 miles. The western portion, lying along the Red Sea, belongs to Turkey, and is called *Hedjaz*, or the "Land of Pilgrimage."

Though this country is usually divided into *Petræa* in the N.W., *Felix* in the W. and S.W., and *Deserta*, which includes the whole of the little-known interior; yet the following is the division by the Arab geographers: (1) *Bahr-el-Tour*, *Sinai* (desert of Mount Sinai); (2) *Hedjaz*; (3) *Tehama* and *Yemen*, along the Red Sea; (4) *Hadramaut*, the region along the southern coast; (5) *Oman*, the kingdom of Muscat; (6) *Bahrein*, on the Persian Gulf; (7) *Nedjed*, the central desert region.

This large peninsula much resembles Africa in its desert character. A plateau seems to rise in the interior, whose greatest elevation is 8,000 feet, bordered on the west by a mountain-chain or highland, running along parallel to the Red Sea, and apparently a continuation of Mount Lebanon. From the Straits of Babel-Mandeb another chain runs N.E. to Oman. In the N.E. of the country there exists a large tract of shifting sands.

The climate is hot and dry ; in many places rain and vegetation are almost unknown. The peninsula of Sinai, in the N.W., contains the mountains Sinai and Horeb, so frequently mentioned in Scripture ; and further N. is a desert district, called El-Tih, or "The Wandering," evidently so named from the wandering of the children of Israel in the wilderness.

TOWNS.—**Mecca** (30,000) ranks first, as the "holy city" of the Mussulman world, having been the birth-place of their prophet Mahomet. It is situated near the Red Sea, and is greatly resorted to by pilgrims. **Jidda** (20,000) is its port, and has active trade.

Medina (15,000), directly N. of Mecca, is the place where Mahomet died, 632, and contains his tomb. **Yambo**, 130 miles distant, serves as its port.

Sana (40,000), in the south, is the capital of Yemen, a highland district, governed by an Imaum. **Mocha** (7,000), known for the excellence of its coffee, is a little north of the strait.

Muscat (50,000), the capital of *Oman*, is a flourishing commercial town in the south. The governor in this district has possessions on the E. coast of Africa.

Bahrein, an island in the Persian Gulf, is an excellent station of the pearl fishery, in which more than 1000 vessels are engaged in the season.

Productions, etc.—The year is divided into three seasons—winter, spring, and summer ; the first very rainy and the last exceedingly hot. Arabia is best known for its horses, dates, drugs, coffee, and gums. No important river exists. Most of the streams, which are swollen in the rainy season, become dried up in the summer.

BRITISH POSSESSIONS.

Aden (20,000), called the Gibraltar of the East, stands 100 miles east of the Strait of Babel-Mandeb, on a strongly-fortified promontory. It is an important position in connection with the new route to India, and has belonged to Britain since 1840. **Perim**, a small island in the strait, also belongs to Britain.

PERSIA OR IRAN.

Persia, called by the natives Iran, occupies the table-land (from 3,000 to 6,000 feet high) between the Caspian Sea and the Persian Gulf, extending from 26° to 40° N. latitude, and from 44° to 61° E. longitude.

It is bounded on the N. by Turkestan, the Caspian, and Russian Armenia; on the E. by Afghanistan and Beloochistan; on the W. by Asiatic Turkey; and on the S. by the Persian Gulf and Arabian Sea. The surface varies much, from great fertility to desert sterility, the latter feature predominating. Near the seas the surface is low, and the temperature very hot in summer. The lowland between the Caspian and the Elburz, which is the N. boundary of the central plateau, is very luxuriant. In the W. the country is also rich in the valleys; but in the E. lies a salt desert which is irreclaimable. Persia suffers much from scarcity of water.

The following are the usual divisions of Persia :—

Provinces.	Towns.
1 Irak-Ajemi,	- Teheran, Kashbin, Kashan, Ispahan, Hamadan.
2 Azerbijan,	- Tabriz, Urumiah, Miana.
3 Ghilan, -	- Resht Lahijan.
4 Mazanderan,	- Saree, Balfroush.
5 Khuzistan,	- Shuster, Dizful, Hawiza.
6 Farsistan,	- Shiraz, Bushire.
7 Laristan, -	- Lar.
8 Kerman, -	- Kerman, Gombroon.
9 Khorasan,	- Meshid, Astrabad.
10 Luristan, -	- Kermanshah.

Irak-Ajemi is S. of the Elburz mountains, and consists of desert table-lands in the centre, with the desert of *Zarang* in the N. E. The streams are here lost in the sandy wastes. In the W., among the hills, the scenery is beautiful, and some of the streams even reach the Tigris. This region produces peaches and figs.

Teheran (120,000), near the southern base of the Elburz, stands seventy miles from the Caspian. It is surrounded by a wall, and entered by four gates, and contains many bazaars. It has been the

capital since 1788, and is almost deserted by its inhabitants in the summer heat for cooler haunts. **Ispahan** (120,000), in the S., on a plateau 4,000 feet above sea level, was once a very populous city. Its stone and seal cutters are the best in the world. **Hamadan**, in the W., is a caravan centre between the capital and Baghdad. It is the ancient Echbatana. **Kashan** is a centre of trade between the capital and Ispahan. **Kashbin** (90,000), in the N., is a good commercial city, celebrated for grapes and nuts.

Azerbaijan lies in the N.W., being separated from Caucasasia by the river Aras, and containing the large lake Urumiah. The surface is well diversified.

Tabriz (150,000) is surrounded by gardens and orchards, and is a seat of transit trade with Europe. The climate is extreme, varying from great heat in summer to intense cold in winter. **Urumiah**, near the W. shore of the lake of same name, is a considerable town. **Miana**, a small town near the S., is remarkable for the Persian poisonous bug. **Maragha** has greatly declined.

Ghilan is a very small province on the S.W. of the Caspian; is low and swampy.

Resht (50,000) is chiefly engaged in trade with Russia, but is very unhealthy.

Mazanderan lies between the Caspian and the Elburz range; is similar in character to the preceding.

Saree (20,000) is a little inland, and has good streets and houses.

Balfrush is a straggling town, which has suffered from its unhealthy situation.

Khuzistan borders the Persian Gulf on the N., and is drained by the *Kuren* and the *Kerkah*, both tributaries of the Shat-el-Arab. The productions consist of rice, cotton, sugar, and indigo.

Shuster, on the Kuren, was nearly depopulated by the plague in 1832.

Farsistan and **Laristan** border the Persian Gulf on the E. shore, being separated from each other by the *Merkhmeh* mountains. The surface gradually rises from the shore. Here is lake *Bakhtegan* (in Farsistan), from which much salt is procured.

Shiraz (15,000), the capital of the former, in a beautiful district, has trade in otto of roses and salt. **Bushire** (20,000), "Father of Cities," is a good port, with great intercourse with India. It was taken by the British, 1857 ; and the telegraph passes through it. **Lar** (10,000) is near the centre of the province.

Kerman borders on Beloochistan, and contains a surface very much a wilderness. It is infested with robbers.

Kerman (30,000), in one of the few fertile tracts of the province, is walled, and has some manufactures. **Gombroon** is a port on the strait of Ormuz, of less importance.

Khorasan, much the largest province, occupies the N.E., and has an elevated surface.

Meshed (50,000), on the Tejend, in the N.E., is a holy city of the Mohammedans, and has manufactures of jewellery, sword-blades, and gold work.

Astrabad (20,000) is in an unhealthy position at the S.E. of the Caspian. **Yezd** (40,000), in the S.W. of this province, is an important caravan seat.

Luristan lies in the W., is bordered by hills, and contains a valley through the centre of which the *Kerkah* runs. This province extends N. almost to L. Urumiah.

Kermanshah (30,000) is modern, well built, and thriving, with trade in fruits, carpets, cottons, and swords.

Mountains.—The mountains of Persia are, properly speaking, continuations of the Caucasian, Taurus, and Armenian chains, which enter on the N.W.

The *Elburz*, running parallel to the Caspian, from 12 to 20 miles distant, is a continuation of the first-named. Many of its peaks are covered with snow, and the highest, Mount Demavend, is 20,000 feet high. The *Taurus* enters near L. Van, and, turning S.E., ramifies into many parallel chains. On the N., the *Elburz*, on the W., the *Zagros*, on the S., the *Kerman*, are the boundaries of the plateau, which extends to Afghanistan on the E.

Rivers.—The chief are the *Karun*, the *Kerkah*, in the S.; the *Uzun* and *Kizil-Aras*, flowing into the Caspian.

Lakes.—*Urumiah* is eighty or ninety miles long, with a mean breadth of twenty-five miles. The water is clear and salt. No fish can live in

it, and its specific gravity is so great that it is little affected by the winds. *Bakhtegan* and *Shiraz* are the other chief lakes.

Climate, etc.—No country has a more varied climate and a drier and purer atmosphere. That of the lowlands near the Gulf consists of a good winter and spring, a tolerable summer, with an excessive autumn heat. That of the plateau becomes more temperate as we proceed N., but in the desert region heat in summer and cold in winter are intense. The lowlands on the borders of the Caspian, with mild winters, have hot summers. Rains are frequent and heavy.

Manufactures consist of cotton and woollen fabrics, shawls, carpets, and felts. Silk is produced in every province, particularly in the N., and is made into satin, sarcenet, brocade, and velvet, which are sent to Turkey and Russia. Drugs, dried fruit, and horses are exported to India. Caravans carry on trade in the interior.

Inhabitants.—The population are either settled or nomad, the former being generally dishonest, servile, and cunning. The nomads are Kurds, Arabs, Luurs, and Turkomans, each tribe being ruled by a chief, like the ancient clans in the highlands of Scotland. The Turkomans are the ruling race of the country, and are courageous, manly, and independent in spirit, but inveterate robbers, and oppress cruelly the lower classes.

BELOOCHISTAN.

Beloochistan, south of Afghanistan, comprises the following divisions, under the Khan (king) of Kelat:—Cutch, Gundava, Sarawan, Kelat, Jhalawan, Lus, Mekran, and Kuhistan. It extends from Persia to the mouth of the Indus, and includes tracts of sandy deserts, with ranges of rocky mountains. The heat from March till November is unbearable. From India this country is separated by the Hala range, beyond which it extends in the N. The S. of the country, thinly peopled, consists of a series of terraces descending to the sea, while the N. is a series of parallel ranges of considerable elevation.

Kelat (20,000), the capital, is enclosed by a mud wall, and stands 8,000 feet above sea level. Almonds, melons, and dates are the chief productions of the neighbourhood. This city was in 1839 taken by the British. **Gundava** is the winter residence of the khan or king.

Generally speaking, the *Beloches*, who speak a corrupt Persian dialect, dwell in the W. The *Brahoes*, who speak a dialect of Sanscrit origin, principally dwell in the E.

Alexander the Great led his army, in his return from India, through this country. The *Bolan Pass*, 6,000 feet high, is the entrance from India. The *Gundava Pass* is more S.

AFGHANISTAN.

This, the "Country of the Afghans," lies between India and Persia, extending about 500 miles from E. to W., and 450 from N. to S. It was once a monarchy, but now contains three independent states, with capitals of the same name—*Cabool*, *Herat*, and *Candahar*. Seistan is tributary to Herat, and Sewestan to Candahar. Afghanistan lies between the parallels of 28° and $35\frac{1}{2}^{\circ}$ N. latitude, and between 62° and 73° E. longitude.

It consists of a table-land, with the river Indus on its E. border. The mountains, which are off-shoots of the Himalayas, sometimes rise to 18,000 or 20,000 feet. The *Suliman* mountains form a barrier on the side of India, and rise to 11,300 feet a little S. of the Gomul pass. The Cabool river N. of these mountains presents an opening to the Indus. This valley is named from W. to E. *Kabool*, *Jelalabad*, and *Peshawur*, the first about 36 miles long, and the second 40 miles long. The *Kyber* mountain, through which is the Khyber pass, 25 miles long, at a height of 3,373 feet, through which the British army passed, 1842, under terrible loss, is between Jelalabad and Peshawur. *Peshawur* is a plain about 60 miles long, with gentle slopes and ravines. These regions are very rich in fruits. N. of the Cabool basin is the *Hindoo Koosh*, running N.E. and S.W. The *Bamean Pass* is between this mountain and the more westerly range *Koh-i-Baba*, and is 8,496 feet high. The chief rivers are: the *Helmund*, running into lake *Hamoon* or *Zurrah*; the *Cabool*, which flows into the Indus after a course of 200 miles, and a descent of 9,500 feet in its course. Rafts are floated down it from Jelalabad. The *Gomul* is lost by absorption in its course. The climate is very various, and fine fleeced sheep and goats are the most valuable stock.

TOWNS.—*Cabool* (6,000), on a river of the same name, has a large bazaar. In 1839 it was entered by the British troops, who, in 1842, were

compelled to retreat in the depth of winter, and several officers and men murdered by the natives.

Jelalabad (3,000) is famous for a gallant defence in 1842, by a British force under Sir R. Sale. **Ghuznee** or **Ghizni** is a reduced town, captured by the British in 1839, and again in 1842. It is 7,000 feet above sea level.

Candahar (70,000) has manufactures of arms, silks, and woollens, and is a caravan station between Persia and India.

Herat (20,000), in the N. W., stands in a beautiful valley.

INDIA.

India, or Hindoostan, is the central peninsula of Asia, and politically includes several provinces on the N.E. shore of the Bay of Bengal, which are usually called *Further India*.

India is bounded on the W. by the Arabian Sea, on the S. by the Indian Ocean, on the E. by the Bay of Bengal, and on the N. by the Himalaya mountains. In the N. W. it is separated from Afghanistan by the Suliman, and from Beloochistan by the Hala mountains. Its length from Bulti, in Cashmere, to Cape Comorin, is 2,000 miles, and its breadth, on the 27th parallel, is 1,180.

Surface.—Hindoostan naturally falls into two divisions, insular and continental, the latter being situated N. of a line from the mouth of the Indus to that of the Ganges. There are five distinct physical regions : (1) The great mountain barrier on the N., already described ; (2) the plain of the Ganges and Indus, the former exceedingly fertile, and the latter, in most places, exhibiting extreme sterility ; (3) the northern plateau, of a triangular shape, extending from Delhi to the valley of the Taptee and the Sautpoora range ; (4) the Deccan, bordered by the Ghauts on the E. and W., and by the Mehadio range S. of the Taptee on the N. ; (5) the maritime plains along the S.E. and S.W. coasts.

The second district is unusually level, no elevation rising to more than 1,200 feet. It is widest in the E., where it extends from the Suliman to the Arravulli mountains, running N.E. from the Runn of Cutch. In the E. it extends from Cuttack, on the Mahanuddy, to Chittagong, on the N.E. of the Bay of Bengal. In the centre it is considerably contracted.

The N. plateau extends from the Aravulli mountains, on the W., to the Sautpoora, and merges into the plain from Delhi, along the banks of the Jumna, and includes the Vindhya mountains in the S. Its rivers, with the exception of the Nerbudda, seek the Ganges.

The Deccan attains an elevation of 2,500 feet in Mysore, and has a general slope towards the east. Its encircling mountains attain a much higher elevation.

The fifth region contains several spurs of the W. Ghauts, which sometimes descend to the shore. On the Coromandel coast the rivers have large deltas, and the Carnatic is one of the richest districts in India.

BRITISH INDIA.

The Government consists of a Secretary of State for India, aided by a Council of fifteen members, which sits in London. In India the Governor-General is head of the administration, whose council consists of five ordinary and one or two extraordinary members—the commander-in-chief, etc. The Governor-General receives £30,000 a-year, with allowances worth £10,000.

The following is an official return of 1870 :—

Presidencies and Provinces.	Sqr. Miles.	Population.
Governor-General of India in Council, .	46,738	6,285,593
Lieutenant-Governor of Bengal, . . .	200,724	40,352,960
Lieutenant-Governor of N.W. Provinces, .	83,690	30,086,898
Lieutenant-Governor of the Punjab, . .	95,768	17,600,000
Chief Commissioner of Oude,	24,060	11,220,747
Chief Commissioner of Central Provinces, .	82,839	7,987,476
Chief Commissioner of British Burmah, .	93,879	2,392,312
Governor of Madras,	141,113	26,539,052
Governor of Bombay,	87,639	11,093,512
Commissioner of Scinde,	54,003	1,795,594

The British possessions are usually spoken of as divided into the provinces of *Bengal*, *Madras*, and *Bombay*.

BENGAL PROPER.

Divisions.	Towns.
The Lower Provinces,	Calcutta, Serampore, Patna.
The North-west Provinces,	Agra, Cawnpore, Delhi.
Oude,	Lucknow, Oude.
The Punjab,	Lahore, Mooltan, Attock.
Berar, or Najpoor,	Najpoor, Chanda.

DEPENDENT STATES.

Divisions.	Towns.
Hydrabad, Holkar's and Scindia's Dominions, Dhar, Bhopal, &c., Rajpootana, Bundelcund and Rewah, Bhawulpore, Sikh States,	Hydrabad, Aurungabad. Indoor, Gwalior. Dhar, Bhurtpoor. Jhodpore, Boundee. Band, Rewah. Bhawulpore. Puttiala.

The Lower Provinces embrace the lower course of the Ganges ; and include Bengal Proper, Behar, higher up the river, with a part of *Orissa*, which is low and sterile in the coast districts, and subject to periodical famines.

Bengal is a flat district, well watered by rivers, which swell in the rainy season and deposit vegetable matter on the country near, thus greatly enriching it. Shallow lakes are numerous. Rice is the principal production ; but the ordinary grain crops, beans, peas, millet, poppies for opium, fruits, and vegetables, are also produced. Silk, tea, and cotton are largely cultivated.

Calcutta (600,000), the capital of British India, is situated on the Hooghly, about 100 miles from its mouth. The city is divided into two parts ; the one, inhabited by Europeans and native merchants, is beautifully laid out, with wide streets and handsome public edifices ; the other, "Black town," is crowded with inhabitants, and is filthy. Ships of a large tonnage can come up to the town, which is defended by Fort William, one of the strongest fortresses in the world. In 1756 the town was taken by Surajah Dowlah, and 146 British soldiers stuffed into a small square room called the "Black Hole," of whom 123 were suffocated before the following morning. The commerce of the city is very extensive, and its educational establishments liberally patronized. Plassy, to the N., 70 miles distant, is memorable for the victory of Clive, 1757, which overthrew Surajah Dowlah, and laid the foundation of the Indian empire. Serampore, on the Ganges, was purchased from the Danes, 1845. Moorshedabad (150,000) has silk, carpet, and embroidery making, Monghyr (30,000) has hardware manufactures. Dacca (60,000), on a branch of the Brahmapootra, once the seat of great muslin manu-

factures, has still some cotton-weaving. Patna (300 000) is enclosed by a brick wall, has good trade in rice, opium, indigo, and saltpetre, and was the scene of the murder of 200 Englishmen by the Nabob, 1763. It is the chief town in Bahar. Gaya (40,000) is a place of pilgrimage. Behar or Bahar (25,000) has much fallen into decay. Cuttack (30,000) is a decaying town, with manufactures in brass. Juggernaut, on the coast, is a place of pilgrimage, and was long notorious for its barbarous rites.

The N.W. Provinces include the upper and middle Ganges. They consist of six provinces: *Delhi*, *Meerut*, *Rohilcund*, *Agra*, *Allahabad*, and *Benares*. The surface in the N. is sandy, and much less moisture falls than in Bengal. Several canals have been cut to assist irrigation—the grand trunk is 350 miles long, and its offshoots 460.

Benares (200,000), the capital of the province of the same name, is built on the Ganges, midway between Calcutta and Delhi (400 miles from each). The houses are built closely together, and the streets narrow. It is a great seat of trade in diamonds from Bundelcund, shawls from the N., and muslins from the S.E. It is the residence of the court of circuit, and has an English college.

Allahabad (60,000) is, from its position at the confluence of the Jumna with the Ganges (70 miles W. from Benares), held sacred by the Brahmins, who flock to it in crowds as pilgrims. It has a powder factory and beautiful military barracks. In the mutiny of 1857, nine young officers, eight other officers, and more than thirty Europeans, were here massacred by the native troops.

Cawnpore (60,000) is one of the most important central cities on the Ganges. It is chiefly built of brick, and is a military station; and, unless when clouds of dust envelop it in the hot season, it is a pleasant residence. Here were perpetrated, in 1857, the brutal massacres of Nenah Sahib, when 200 British women and children suffered the most cruel butcheries, and whose bodies he caused next day to be thrown into a well.

Delhi (170,000), long the capital of this Mohammedan empire in India, stands on the Jumna, about 270 miles from Cawnpore. The present city was built in 1631, has houses of brick, many palaces, and mosques with gilded domes. An extensive inland trade, and some manufactures of scarfs, etc., are carried on. In 1857 the mutineers seized the city, in which they were then besieged; but the city was retaken by the British, 20th September following.

Hurdwar (100,000), on the Ganges, near the base of the mountains,

is a good commercial mart, where numbers of Hindoo pilgrims assemble. It has a large annual fair. **Perukkabad** (130,000) is a walled town, which has active trade with Cashmere. **Mirzapore** (70,000) is a well built town, with trade in silk and cotton, and a carpet manufactory. **Agra** (120,000) is the seat of the Government of the N.W. Provinces. It stands on the Jumna in the midst of a sandy plain, and contains some splendid specimens of Saracenic architecture. The fortress, or residency, was held during the Indian mutiny, though the insurgents held the town. **Meerut** (30,000) is the head-quarters of the Bengal artillery. Here the mutiny first broke out, 10th May, 1857. **Bareilly** (100,000) is an important manufacturing town, producing carpets, hardware, embroidery, and cabinet works. Westward is *Simla*, the favourite residence of the governors-general. It is 7,866 feet above sea level, and has cool bracing air. **Calpee** (20,000) has manufactures of paper and sugar-candy. It is fortified, and commands this part of the Jumna. **Almora** (10,000) is 5,300 feet above sea level, on the side of a mountain.

Oude* or **Oudh** is situated between the Ganges and Nepaul, and is well watered by streams from the mountains on their way to that river. Its area is 27,890 square miles, and its population is above 8,000,000. The surface is a plain, sloping from N.W. to S.E., and drained by the *Gumti*, *Ghagra*, and the *Raptie*. It produces cereals, mustard, rice, maize, sugar, tobacco, and cotton. It exports soda, saltpetre, and salt. The inhabitants, mostly Hindoos, are warlike, and chiefly supplied the notorious Sepoys.

Lucknow (300,000) is on the Gumti, surrounded by a well-wooded country. Its large and fantastic palaces are the chief attraction. The site of the city is extensive, and the domes and minarets rise among green trees of glorious foliage. Here, in the mutiny, the British garrison defended the residency under Sir Henry Lawrence and Sir Henry Havelock, for eighty-seven days, against 60,000 troops, until relieved by Sir Colin Campbell, who then made one of the most masterly retreats on record.

Oude (8,000), the capital of the late kingdom, is now much decayed. **Fyzabad** (90,000) is also rapidly declining. Its gardens are celebrated for grapes and other fruits.

* It was annexed by Lord Dalhousie, 1847.

The **Punjab** is an extensive territory in the N.W.; has belonged to Britain since 1849. It is so named from the "five rivers" which water it; one of which, the *Sutlej*, forms its E. and S.E. boundary. Spurs from the Himalayas penetrate this district in the N., and enclose nice valleys; but in the S. the only elevation is the *Salt Range*, between the Indus and the Ghelum, rising to a height of 2,000 feet. On the borders of the rivers the soil is fertile, but for the most part it is sandy and sterile. Crops of wheat, rice, barley, maize, indigo, cotton, tobacco, and opium are grown. Two-thirds of the population are Moslems, one-sixth Hindoos, one-sixth Sikhs.

Lahore (110,000) is a large and important city on the Ravee, surrounded by a brick wall 7 miles in circumference. It contains many ruins, as well as numbers of mosques and Hindoo temples. It came into our possession in 1849.

Amritsir (90,000) has manufactures of cottons, silks, and shawls. **Ferozepore** is now an important military station. In its neighbourhood were fought the battles of *Ferozeshah*, *Moodkee*, and *Sobraon*; and a little N. *Gujerat*, and *Chillienwallah*, all fought in the Sikh war. **Mooltan** (80,000) was taken after an obstinate struggle, 1849. It has manufactures of silks, shawls, and carpets. **Peshawur** (50,000), near the entrance to the Khyber Pass, is a strong military position, with increasing trade. It is on the frontier. **Atak**, or **Attock**, on the Indus, is the place where most of the armies invading India crossed the river, including that of Alexander the Great. **Murri**, on a hill, is the resort of the governor and higher officials in the hot season.

Nagpoor is almost wholly within the Deccan. In the N. spurs of the Vindhya Hills penetrate, and in the S.E. much of the surface is covered with jungle, the haunt of numbers of tigers. **Berar**, on the W., produces much cotton. **Sagar** and **Nerbudda**, much coal.

Nagpoor (10,000), "the town of serpents," has trade in arms, silk, and cutlery. The railway extends to this town.

DEPENDENCY OF BENGAL.

Hyderabad, a kingdom under a ruler called the Nizam, embraces a good deal of the Deccan, and has the river Kistna its S. boundary, and the Godavery its N.E. boundary, the latter traversing the whole district from W. to E. The slope of the country is to the E.; the soil is admirably adapted for the cultivation of cotton, maize, and mustard. The Nizam has been a British ally since 1768.

Hyderabad (200,000)—“Lions' Town”—is situated on the Mussy, in a central position. Its artizans are noted for their skill in diamond-cutting, the district containing many precious stones. Beautiful gardens adorn the environs of this city.

Secunderabad, a little N., contains the British cantonment. **Golconda**, seven miles W., contains a fortress in which the Nizam's treasures are kept. It was once renowned for diamond-cutting. **Aurungabad** (60,000) is a declining town in the N.W. **Assaye**, N. of Aurungabad, is a small village at which Wellesley defeated the Mah-rattas, 1802.

Indore and **Gwalior**, or *Holkar's* and *Scindia's* dominions, are several detached districts N. of the Vindhya hills; and, in the valley of the Nerbudda, *Dhar* and *Bhopal*. *Bundelcund* and *Rewah* are in the same neighbourhood; and more N. are *Dholpoor* and *Bhurtpoor*. *Rampoor* is enclosed by Rohilcund.

Indore (15,000) is a rather mean-looking town, with little trade. **Mhow** is a small town in the same state, and a British cantonment.

Gwalior (50,000) is the capital of Scindia, and is well fortified. It was a scene of an active insurrection in the late Indian mutiny. **Jhansi** (20,000) has a considerable trade and a large population. The Europeans were all murdered here in 1857. In 1858 Sir H. Rose took it by storm. The manufacture of bows and arrows is its chief industry. **Oojein** or **Ujein** (120,000) is one of the seven sacred cities of the Hindoos.

Dhar is the capital of a small principedom of the same name.

Bhopal, on the N. side of the Vindhya hills, is surrounded by a decayed wall.

Bhurtpoor (100,000) was the scene of an obstinate attack of Lord Lake, 1805. It has great trade in salt.

Rajpootana is about the size of the United Kingdom. It extends into the Indian desert on the W., where nothing but droves of wild asses, foxes, antelopes, and desert-rats are met. The remainder of the country is fertile, and is watered chiefly by affluents of the Jumna.

Joudpoor (100,000) is a fine town, occupying a strong position.

Jeypoor (50,000) is an elegant city, with a native observatory.

Bhawulpore extends along the banks of the *Ghara*, a river formed by the junction of the Beas and Sutlej with the Chenab. It is extremely barren, unless on the river borders, where indigo, rice, sugar, tobacco, and fruit, are raised in considerable quantities. **Sikhim** is a small state, separating Nepaul from Bhotan.

BOMBAY PRESIDENCY.

Divisions.	Towns.
North and South Concan, Punah, Ahmednuggur, Khandesh and Goojerat, Scinde,	Bombay, Tannah. Punah, Ahmednuggur, Sattara. Surat, Baroche, Ahmedabad. Hyderabad, Tattah, Kurrachee.

DEPENDENT STATES.

Goojerat and Guicowar's Dominions. Cutch. Kolhapur.	Baroda, Cambay. Bhooj, Mandavi. Kolhapur.
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BOMBAY.

This presidency, the smallest of the three, is on the western side, with a coast-line extending from Canara, in the S., to the mouths of the Indus, with an inward reach varying from 200 to 300 miles. With the exception of Scinde, which borders on Beloochistan, Bombay may be divided into three

physical regions: (i.) the two Concans, between the Ghauts and Arabian Sea, which has a very high temperature, sometimes reaching 115° ; (ii.) the E. slope of the same mountains, which is sometimes subject to droughts; (iii.) the district around the mouths of the rivers Taptee and Nerbudda, an alluvial tract. This presidency includes the best cotton fields of India, with an increasing exportation. Many of the *Parsees*, descendants of the ancient fire-worshippers of Persia, are located near the coast, whose mechanical skill and mercantile probity and industry are well known.* The exports consist of cotton, opium, coffee, pepper, ivory, and gums. The area is about the same as that of the United Kingdom, and the population about 12,000,000.

Bombay (150,000) derived its name from two Portuguese words (*Bom-bahia*), meaning good harbour. It stands on a small island of the same name, which is about 9 miles long, in a rather picturesque position, with the mountain range of the Ghauts in the distance behind the town. It is strongly fortified, and many of its houses have trees and shrubs, with small gardens attached. Shipbuilding is carried on in its docks, and commercial enterprise is of the first magnitude. During the last few years the exports of cotton have greatly increased.

Poonah, with **Sattara**, etc., lie inland, and enjoy a more temperate climate than the coast. The district is chiefly watered by the Kistna and its tributaries.

Poonah (75,000), formerly the capital of the Mahratta empire, stands in a dry plain, about 100 miles by rail from Bombay. It contains a Sanskrit college, and is the chief military station of the Deccan.

Ahmednuggur (20,000) is about 70 miles N.E., and is an important town. It was taken by Wellesley, 1803.

Sattara, about 115 miles S. from Bombay, is also an important military station.

Khandesh, embracing the middle course of the Taptee, and **Goojerat** containing this river's mouth as well as that of the Nerbudda (and enclosing the gulf of Cambay), produce much of the Indian cotton from their alluvial soil.

* They worship the sun, and prostrate themselves on the sea-shore at sunrise and sunset. They were driven from their own country by the Mahometans, and now not a few have attained to positions of eminence.

Surat (140,000), at the mouth of the Taptee, is now declining. It has an hospital for aged and maimed animals. Here the East Indian Company established their first factory.

Baroche (30,000) is an ill-built town near the mouth of the Nerbudda.

Scinde embraces the lower part of the valley of the Indus, where rich crops of rice, barley, etc., with sugar and indigo, are raised. The remainder of this country is part of the great Indian desert. The inhabitants consist of a larger proportion of Mahometans to Hindoos than in any other province.

Hyderabad (20,000), the capital, stands on an eminence, and has manufactures of arms. **Meanee** is a few miles distant, where Sir C. Napier defeated the Belooches in 1843.

Kurrachee (20,000) is the principal port, and now the principal telegraph station, is rapidly rising into importance.

Goojerat is reckoned as one of the gardens of India ; it contains the peninsula of *Kattiwar*, between the gulfs of Cutch and Cambay. *Cambay* is a small native state. *Cutch* is subject to earthquakes. *Kolapore* and *Sawunt-Warree* are small native states.

Baroda (100,000) is a good trading city, but not increasing in importance. **Cambay**, on the estuary of the River Myhe, has manufactures of stuffs, chintz, and silk, and is a small seaport.

Bhooj, in a plain, is the capital of Cutch, and has manufactures of gold and silver.

MADRAS PRESIDENCY.

Divisions.	Towns.
The Carnatic,* - -	Madras, Arcot, Tanjore.
N. Circars, - -	Ganjam, Masulipatam, Coringa.
S. Canara and Malabar,	Mangalore, Cannanore, Calicut.
Mysore, - -	Mysore, Bangalore, Seringapatam.
Coimbatoor, - -	Coimbatoor.
Coorg, - -	Mercara.

* The Carnatic, a familiar, though not a geographical term, extends from Cape Comorin as far as the mouth of the Kistna. The *Malabar coast* extends along the W. shore from Cape Comorin as far N. as Mangalore ; and the *Coromandel coast* runs on the E. from Calimere point as far N. as the *Carnatic*.

DEPENDENT STATES.

Divisions.	Towns.
Cochin, - - - - -	Cochin.
Travancore, - - - - -	Trivandrum.
Jeypoor, etc., - - - - -	Jeypoor.

MADRAS.

This presidency embraces the whole south of the Indian peninsula, including the E. and W. coasts, with the exception of the French possessions, small and unimportant. On the E., its N. limit is the Chilka Lake. "The opposite coast regions remarkably contrast in their climate. On the E. side there is more continuous and intense dry heat than in almost any other part of India. At the midnight hour the thermometer is not unfrequently above 100°. Wood-work shrinks and warps; nails are loosened, and fall out of doors and tables; glass globes and shades are cracked."* On the W. side, however, the excessive humidity is the chief climatic characteristic.

Madras (80,000) is a handsome city, with a very bad harbour, which only admits small flat-bottomed boats or rafts to enter the town. In fact, it may be said to contain no harbour, but merely a roadstead two miles off the town. It is defended by Fort St. George, which contains the government offices and the courts of justice. Madras has a university and a grammar school. The climate is hot, but not unhealthy. It was taken by the French and much injured in 1744, but restored at the peace, 1748. Great quantities of ice are used by the inhabitants, in consequence of the heat of the climate.

Arcot (50,000) was the place where Lord Clive, in 1751, gained his first military laurels. In the neighbourhood is a tank to hold water in the dry season 8 miles long. **Vellore** (50,000) was the scene of a massacre of the British officers by the native troops, 1806, in a mutiny. **Tanjore** (80,000), a chief city of the Hindoos, is a town with very considerable manufactures. **Trichinopoly** (30,000) is a strong town, with manufactures of cutlery, jewellery, and cheroots of the best quality.

* Milner's Geography. Chambers.

The N. Circars extends from the Chilka Lake along the Carnatic coast to the mouth of the Kistna, with a low shore, rising as we go inland.

Gaujam is now almost in ruins. Ohicacole (50,000), in a more salubrious situation, has been more fortunate. Masulipatam (25,000), near the mouth of the Kistna, has manufactures of chintzes and muslins, and carries on an active trade with China, Arabia, etc.

Malabar and S. Canara are similarly situated on the W. coast, and are much covered with mountains, the slopes of which are richly clad with sandal wood, teak trees, and other valuable timber. The shore is sandy; and the district produces cocoa-nuts, rice, spices, pepper, and ginger.

Mangalore (15,000), though with a very bad harbour, is one of the principal ports for the exportation of rice.

Calicut (20,000) is remarkable as the first place in India visited by Vasco de Gama. It gave its name to the well-known article *calico*. Cannanore (20,000), the best harbour on this coast, is the principal British station in Malabar. Beypoor is a little S. of Calicut.

Coimbatore lies almost entirely E. of the W. Ghauts, between the Malabar and Carnatic coasts, with the Neilgherry Hills on the N., which decline gradually into the table-land of Mysore.

Ooorg, on the N.W., with beautiful well-cultivated valleys, and a diversified surface, the lowest point of which is 3,000 feet high, was an independent principality. The annual rainfall is 120 inches. It contains several ramparts, rising from 20 to 25 feet, evidently constructed in remote antiquity for defensive purposes.

Coimbatore, a large town, a station on the Madras railway, is on the S. declivity of the Neilgherries. Near the town is a great gorge in the W. Ghauts, which admits of the free passage of both monsoons.

Utacamund, or Ooty, a sanatorium for Europeans, is situated among the hills. Mercara, the capital of Coorg, stands 4,000 feet above sea

level, and is inhabited by an industrious athletic race of mountaineers.

Mysore is an inland district almost as large as Scotland, and consisting for the most part of a table-land, drained by the Cauvery, the Pennar, and other rivers. The climate is healthy and pleasant, and the productions are cinnamon, pepper, coffee, silk, cotton, and sago. It is intimately connected with the history of Hyder Ali, and his son, Tippoo Sahib.

Mysore (55,000) contains the British residency. Its houses are built of teak.

Seringapatam (12,000) was strongly fortified by Tippoo Sahib, who made it the capital of his dominions. It is on an island in the Canvery. In 1792 it was attacked by Lord Cornwallis, who compelled the Nizam to give up half his dominions. In 1799 it was taken by the British and Tippoo Sahib killed. **Bangalore** (60,000) is the largest town, and has cotton and silk manufactories.

Travancore and **Cochin** form the S.W. extremity of S. India. They are among the most favoured places as regards soil and climate. The valleys give abundance of the best rice; the hills the best timber of pine and teak.

Cochin (30,000) has ship-building, and is a highly commercial town, though its harbour is not good.

Trivandrum (12,000), the capital of Travancore, is at the mouth of the Karamany. It has an observatory. **Quilon** (15,000) is a port further N.

INDEPENDENT STATES.

These consist of *Cashmere*, in the N., bordering on the Punjab; *Nepaul*, on the southern slope of the Himalayas; and *Bhotan*, further east, on the same slope.

Cashmere lies imbedded in high mountains, amongst which are some very lofty summits. It is one of the most interesting portions of the earth, consisting of an elevated valley, bordered by hills of from 80 to 90 miles long, with

an elevation of 5,000 feet. It contains a lake, *Wuller*, 40 miles in circuit, through which the Jhelum flows, and brings with it the drainage of the whole valley. The staple production is rice; fruit-trees and roses are cultivated with great care; wheat and other grain crops are also raised; sheep are plentiful; and the Cashmere goat has long been famous for his long silky hair. The manufactures consist of shawls (of goats' hair), leather, fire-arms, and ottar of roses. It presents six shawls annually to Queen Victoria, and is so far tributary.

Serinagur (40,000), the capital, is situated on the Jhelum, near the centre of the plain, and commands a splendid view of magnificent scenery. **Islamabad**, higher up the river, is a seat of the shawl, woollen, and cotton manufactures. Here the river becomes navigable for barges. **Baramula** stands at the pass through which the river breaks through the mountains. **Sampré** is a populous town on the Jhelum.

Nepaul extends from 26° to 31° N. Lat., and from 80° to 88° E. Long., bordering Thibet on the N., and the plains of the Ganges on the S. Much of the country is occupied by rugged mountains, with long narrow valleys in some places. On the southern border grassy downs and forests are found. Rice is the principal production; but maize, cotton, wheat, and barley, are cultivated. Most of the mountains are covered with large trees, and the sugar-cane flourishes in the valleys.

Khatmandoo (50,000), the capital, contains a great number of temples and steeples, but has many narrow, dirty streets. **Goorkha**, 50 miles N., was the ancient capital.

Bhotan is also a mountainous district, a dependency of Thibet. In favourable places grain crops are raised. Oaks and pine forests cover the mountains to the height of 8,000 or 10,000 feet. The religion is Buddhism.

Tassisudon, the capital, is a large town in a fertile valley. It has manufactures of brazen images.

French Possessions.

The French possess *Pondicherry* and *Karakal*, on the Coromandel coast; *Chandernagore*, N.W. from Calcutta; *Mahé*, on the Malabar coast; *Yanaon*, near the mouth of the Godavery.

Pondicherry (30,000) is the capital of the French possessions. It is 83 miles from Madras. A canal separates the Black or native town from the European part, which is well laid out. This town was taken by Colonel Coote, 1761; but was restored 1763. It was again taken by Sir H. Munro, 1778, and again restored at the peace of 1783. The district around has a population of 80,000.

Chandernagore (25,000) is now fast decaying. It is 16 miles from Calcutta.

Yanan or *Yanaon* (5,000) consists of the town, and six miles around.

Portuguese Settlements.

New Goa, the capital, is on an island at the mouth of the Mandova, and has one of the best bays in India. Its trade, however, is declining.

Old Goa (4,000), the former capital, is five miles distant. *Diu* is a fortified port.

Damaun, in the neighbourhood of a teak forest, has shipbuilding.

Mountains.—The mountains of India are mostly in chains, some of which extend for hundreds of miles. The chief chains are :—

The *Himalayas* in the N. The *Aravulli* mountains in Rajpootana, culminate in Mount *Abu* (about 5,000 feet). The *Vindhya* mountains run parallel to the River *Nerbudda* in central India, and rise to about 6,000 feet. The *Sautpoora* range, N. of the River *Malabar*. The *W. Ghauts* (7,000 feet) run parallel to the *Concan* and coast. The *Neilgherries* (8,760) connect the preceding range with the *E. Ghauts*, which run along the Coromandel coast.

Rivers.—The rivers flowing into the bay of Bengal, are the *Brahmapootra*, *Ganges*, *Bramuni*, *Mahanuddy*, *Godavery*,

Kistna, and the *Cauvery*, almost all of which enter the sea by several mouths.

The *Brahmapootra*, on the N. of the Himalayas, corresponds to the Ganges on the S. It rises in Thibet (82° E. longitude) where it formed of many mountain torrents. It proceeds E. under the name of *Sanpoo* for 1,000 miles, where it is joined in the N. of Assam by the *Dibong*, which also comes from Thibet, and has had a course of 300 or 400 miles. The river now proceeds to the S.W., and N. of the *Garrow* mountains, which it leaves on the E., turns S., and, mingling its waters with those of the Ganges, enters the N. of the Bay of Bengal.

Ganges has been described. The *Bramuni* enters at Point Palmyras. The *Mahanuddy*, a little further S., flows E. through Bengal on the S.W., and, after 520 miles, enters the sea. At Cuttack it separates into several branches.

The *Godavery* rises in the W. Ghauts, and, passing through the Nizam's dominions, enters the Sea after crossing almost the whole peninsula, by several mouths. It receives the *Pranheta* from Berar.

The *Kistna*, with a course of 700 miles, is a little further S., and passes *Sattara* on the W., and enters the sea near Masulipatam on the E. On the N. it receives the *Beemah*, and on the S. the *Toomgabudra*.

The *Cauvery* rises also in the W. Ghauts, and flows through Mysore, passing *Trichinopoly*, *Tanjore*, and entering the sea a little N. of Culimore point.

The rivers entering the Arabian Sea are the *Indus*, *Nerbudda*, and *Taptee*.

The *Indus* has been described. The *Nerbudda* separates the *Vindhya* and *Sautpoora* mountains, and has a course of 800 miles. It passes *Jubbulpore*, *Hoshangabad*, *Burwanee*, and *Barmah*, entering the Gulf of Cambay.

The *Taptee*, a little further S., falls into the same Gulf near Surat.

Lakes, etc.—*Chilka* is on the E. coast between *Circars* and Bengal. On the W. is the island of *Cutch*, with the Great Western Runn on the N., and the Runn of *Cutch* on the E.—*Koree* mouth being the entrance to one, and the Gulf of *Cutch* the entrance to the other.

Deserts.—The *Great Desert*, in the N.W., runs from *Scinde* N.E. through *Rajpootana* as far as the Sikh States. The *Little Desert* runs along the S. of *Scinde*, bordering on the Great Western Runn.

ISLANDS.

Ceylon, in the Indian Ocean, is separated from the S.E. part of Hindoostan by Palk's Strait and the Gulf of Manaar. Its length is about 270 miles and its greatest breadth 140. The interior is traversed by finely-wooded mountains and watered by numerous lakes and rivers, the principal of the latter being the *Mahawelle*. The most remarkable mountain is called Adam's Peak (7,000 feet), on the level summit of which is a lake, and also a great stone bearing the mark of a colossal human foot, which the Mahometans believe to have been made by Adam, the Christians by St. Thomas, and the Buddhists by Buddha. The soil is rich and luxuriant, producing coffee, sugar-cane, cinnamon, rice, pepper, also teak and other valuable woods. This island abounds with precious stones more than any other part of the world—the most valuable being sapphires, rubies, and topazes. There are also mines of iron and manganese. The most extensive pearl fisheries in the world are situated in the Gulf of Manaar, and the pearls found here are better than those of any other place. Ceylon is chiefly famous for its elephants, which are esteemed more than those of any other part of India, and are remarkable for their size and sagacity. The population is estimated at 2,000,000. Since 1801 it has been a separate British colony, under a governor aided by a council of five members.

Colombo (30,000), the capital, is on the W. coast on a small headland, and though in a hot climate, is, from its exposure to the influence of the monsoons, a healthy town. The harbour is small, but the roadstead secure. Cinnamon plantations are in the neighbourhood. This town was taken from the Dutch, 1796.

Galle, or Point-de-Galle, is on the S. coast. It has an excellent harbour, and has become an important steam-packet station, with trade in coffee, rice, cinnamon, oil, ivory, and tortoise-shell. All the steam packets touch on their way from China, and the East Indies.

Trincomalee (30,000), on the N.E. coast, is fortified. Its harbour was called by Nelson "the finest in the world." Candy or Kandy (8,000) is on the borders of a lake, near the centre of the island. Jaffna (7,000) is a place of great commercial importance.

The **Andaman Islands**, in the Bay of Bengal, yield valuable timber ; but have an unhealthy climate. They are inhabited by naked savages, who fight with spears and arrows. Five of the islands are of a considerable size, and the group extends about 150 miles. At Port Blair, the convict establishment since the mutiny, Lord Mayo, the Viceroy, was stabbed by a convict, 8th February, 1872, and died a few hours after.

The **Nicobar Isles** lie about 100 miles more S., and are inhabited by people of mild disposition.

The **Maldines**, off the S.W. coast, mostly of coral formation, consist of about 1,000 isles and reefs. They are tributary to Ceylon, though governed by a native chief.

The **Laccadives**, seventeen in number, are occupied by an Arab race. Their ruler is subject to the governor of Madras.

Indian Railways.—From Calcutta a line runs N.W. to the Ganges, and along the S. of the river to Patna, thence to Allahabad. The line now proceeds N.W. to Delhi, and thence to Lahore, from which it runs E. of the River Ravee to Mooltan. From Allahabad a line runs S.W., passing Jubbulpore, to Bombay ; and sends a branch to Nagpoor, along the S. of the River Taptee. From Bombay, a railway runs S.E. through Poonah, Shalapoor, Gooty, and Cuddapah, to Madras ; thence it proceeds S. to Salem, where one line runs through Coimbatore to Calicut, and another through Trichinopoly to Tanjore. From Bombay a line runs along the coast to Surat, thence N. through Baroda, Ahmedabad, and W. to Hyderabad and Kurrachee. This line is not yet completed. Railway trains run from Calcutta to Bombay in sixty-four hours.

Inhabitants.—The *Mahometans* are about twenty millions, who “have seen their sect and race dispossessed of ill-gotten supremacy,” and have witnessed the steady rise of the subject races, whom they once regarded as despicable inferiors. The Indian Mussulman looks upon the Indian education system, British rule, and modern scientific advancement, with sullen resentment. The *Wahabees* are a fanatic section of Mussulmans, who dwell among the hills on the N.W. frontier. The *Looshais* are a similar tribe, who dwell on the Looshai hills, also in the N.W. These tribes are usually plotting against the government. Before the conquest of India by Clive, the Mahometans were the rulers.

The **Hindoos** consist of several sects, all of whom are idolaters. The Hindoos accept the education system, learn the English language, and fit themselves as far as possible for public employment. They

are intelligent and frugal ; but subtle and treacherous. These various tribes, including Brahmins, number about 150 millions.

The *Sikhs*, who dwell near the Sutlej, number about two millions. The *Jains* or *Buddhists* are widely diffused, and number five millions. All religions are equal in the eye of the government, which “ continues to pay the State grants made to Hindoo temples and Mahometan mosques.” The offering of human sacrifices has been disallowed. Christian missionaries have been moderately successful.

Education.—There is, in the capital of each Presidency, a University, a director of public instruction, and a staff of school inspectors. Colleges are established in most of the principal towns, and an engineering school at Poonah. No religious instruction is given in the primary schools. The language of India, with the exception of a few dialects in the S., is derived from the *Sanscrit*, the ancient tongue of the people, which is now branched into above twenty dialects.

FURTHER INDIA.

Further India, or “ India beyond the Ganges,” extends from the Bay of Bengal, on the W., to the Chinese Sea, on the E., and from Thibet, on the N., to Singapore on the S. Much of the interior of this extensive territory is very little known. The surface is traversed by mountain ranges running N. and S., between which large rivers flow in a southern direction. The people are much less civilized than those of British India.

The following are the usual divisions :—

States.	Capitals.
1 British Possessions,	<i>Moulmein</i> , on the Saluen.
2 Burmah, Empire of,	<i>Mandalay</i> , on the Irrawaddy.
3 Malaya,	<i>Perak</i> , on W. coast.
4 Siam, Kingdom of,	<i>Bangkok</i> , on the Meinam.
5 Cambodia,	<i>Udong</i> .
6 French Possessions, or Lower Cochin-China,	<i>Saigon</i> , on the Saigon.
7 Annam, Empire of,	<i>Hué</i> , on the E. coast.
8 Laos, Country of,	<i>Chang-mai</i> , on the Meinam.

British Possessions.—The British Provinces, which are, with one exception, politically connected with Calcutta, are as follows :—**Assam**, on the N., bordering on Thibet, Bhotan, and Burmah, is traversed by the Brahmapootra. It was ceded by Burmah, 1826. It is principally attractive on account of its tea culture. The towns are all small. **Aracan**, on the shore of the Bay of Bengal, has a broken coast on the N., fringed with islands. **Pegu**, about as large as Ireland, includes the lower course of the Irrawaddy, and its large delta. This province was retained after the Burmese war, 1852. *Tenasserim* is nearly 500 miles long, and about 50 broad, extending from Pegu to Malacca. The climate is not extreme ; the soil is fertile, and minerals abundant. The *Straits Settlements* are under a separate governor, and consist of *Penang*, or *Prince of Wales's Island*, *Singapore*, *Wellesley Province*, and *Malacca*. *Georgetown* is the capital.

Aracan is in a swampy district, about 50 miles from the sea. The capital of the province is **Akyab**, at the mouth of the river Aracan. It is the port of the province. **Rangoon**, at the mouth of the Irrawaddy, has considerable trade. **Prome** (30,000), higher up the river, is the largest town in British Burmah. **Moulmein**, on the Saluen, is the most commercial town in the province. **Gowhatty** is the chief seat of trade in Assam.

In the *Straits Settlements*, **Georgetown** (40,000) has a good harbour, and rather extensive trade. Pepper is largely exported from **Penang**.

Malacca, at the mouth of a small river, contains the British garrison for the province. **Singapore** (60,000) is a steam-packet station, and an entrepot for merchandise. Though it is only eighty miles from the equator, the climate is not so hot as might be expected.

Burmah is bounded on the E. by China, and a small portion of Annam ; on the S., by Siam and the British province, Pegu ; and on the W., by the British Provinces, from which it is separated by the *Yoma Dang* and *Potkoi* mountain ranges. It is nearly divided into two equal parts by the Irrawaddy. It contains large forests of pine and teak trees ; also oil trees, which produce much vegetable oil.

Petroleum is also found in large quantities. The mineral wealth of the country is very great.

Mandalay, the present capital, is a little N. of Amarapura.

Ava (30,000), the former capital, is the largest town in the country. It is on the Irrawaddy, a little S. of Amarapura. In 1839, it was nearly destroyed by an earthquake.

Amarapura, on the same river, shared in the same disaster. Bhamo (15,000), a flourishing town on the same river, is near the Chinese frontier. Montshobo was a temporary capital for some years. Mogoung has rich amber mines.

Malaya is also inhabited by tribes governed by chiefs, in the patriarchal form. They make good seamen, but are much addicted to piracy and are said to be treacherous. The country is mountainous.

Perak is a small town on the W. coast. The trade has left the Malay towns, for the most part, and has gone to the British provinces, where life and property are more secure.

Siam.—This country is watered by the Meinam, which runs through a rich alluvial plain. The people* are very fond of European improvements, and the king is at present (1872) travelling in America. Considerable trade is carried on by the Chinese, who are about as numerous as the Siamese in the country.

Bangkok (350,000) is the largest town of Further India. It is semi-aquatic, many of the houses being on floating rafts. Its position has been compared to that of Venice.

Yuthia or Siam, the old capital, is on an island higher up the river. *Pech Aburri*, on the coast, is often the resort of the king and court.

Cambodia lies further up the river of the same name than the French territory, and borders on the Gulf of Siam. It contains a large lake, the *Tale-Sap*, and has a fertile soil, producing rice, coffee, silk, and sugar.

Udong, on the Cambodia, is the only town in the district.

French Possessions.—These were taken in 1860; and

* The inhabitants are remarkable for peculiar ceremonies. They always kneel in presence of superiors; and the ambassadors a few years ago went down on "all-fours" in presence of the queen.

consist of three provinces extending up the Cambodia river for 130 miles.

Saigon (150,000) is a naval and commercial port, containing a French garrison, and is the head-quarters of the French settlement.

Annam, lying on the E., along the Chinese Sea, is fertile near the coast, but mountainous in the interior. It consists of three provinces :—Tonquin, in the N., Cambodia, in the S., and Cochinchina, in the E.

Hué (90,000) is well fortified, the palace and inner citadel being surrounded by a wall. The suburbs are extensive.

Laos, rich in metals and woods, is inhabited by tribes under chiefs who are independent. The people are quiet, and very fond of music.

Changmai (23,000) is the only important town in the country.

Mountains.—The *Patkoi* range, between Assam and Burmah, with its continuation, the *Yoma Dang*, on the E. of Aracan, extends S. through Pegu to Cape Negrais. The *Kareens* are on the borders of Pegu, between the Paunglaung and the Saluen rivers. A range of hills runs along the W. of Siam, which, with little interruption, proceeds through Malaya.

Rivers.—The Irrawaddy has been described—see p. 340. The Saluen rises in Thibet, passes through the S.W. of China, enters Burmah, separates Pegu from Siam, and enters the gulf of Martaban. The Meïnam rises on the borders of Burmah, and after a course almost directly S., enters the gulf of Siam. The Cambodia or Me-Kong rises on the S.E. borders of Thibet, runs through the S.W. of China, winds through Laos, now forms the W. boundary of Annam, and turning W. proceeds through Cambodia to the Chinese sea.

Islands.—*Ramree*, with mud volcanoes, the *Mergui Archipelago*, *Penang*, *Salangan*, and *Singapore*.

CHINA.

The Chinese Empire includes most of central and eastern Asia. China proper extends from 20° to 42° N. latitude, and from 98° to 123° E. longitude. Its length from N. to S. is about 1,600 miles and its breadth about 1,300.

In the N. the river Amour and the Altai mountains form for a great distance the boundary between China and Siberia; in the W. the Bolar Tagh is on the frontier; on the S. the Karakoram and Himalaya ranges form the boundary.

The Surface consists of an elevated district in the N.; an extensive alluvial plain, already referred to in the centre; and an undulating region, interspersed with valleys and mountains, in the S.

CHINA IS DIVIDED INTO TWENTY PROVINCES.

Provinces.	Square Miles.	Population.	Capitals.
Northern Provinces			
1 Pe-chi-li - -	59,000	28,000,000	Pekin on the Peiho.
2 Shan-tung - -	65,100	29,000,000	Tsi-nan on the Tat-sing.
3 Shan-se - -	55,268	14,000,000	Tai-yuen
4 Shense - -	67,400	10,000,000	Si-ngan on the Wei-ho.
5 Kan-su - -	86,600	15,000,000	Lan-chow on the Hoang-ho.
Central Provinces			
6 Kiang-su - -	44,500	38,000,000	Nan-King on the Kan.
7 Ho-nan - -	65,000	23,000,000	Kai-fong.
8 Ngan-whi - -	48,500	34,000,000	Ngan-King on the Yang-tse-Kiang.
9 Hoo-pe - -	70,450	27,000,000	Wo-Chang, do.
10 Se-chuen - -	166,880	21,000,000	Ching-too.
11 Hoo-nan - -	74,320	18,000,000	Chang-sha.
12 Quei-chow - -	65,554	5,000,000	Quei-yang.
13 Che-Kiang - -	39,150	26,000,000	Hang-chow.
14 Fo-Kien - -	53,480	15,000,000	Foo-chew near Strait of Formosa.
15 Kiang-si - -	72,176	23,000,000	Nan-chang.
Southern Provinces			
16 Quang-tung - -	79,456	19,000,000	Canton on the Canton.
17 Quang-se - -	78,250	7,000,000	Quei-ling
18 Yun-nan - -	108,000	5,000,000	Yun-nan on Lake Tien-chi.
Transmural Provinces			
19 Shing-King or Leao-tong - -	62,000	1,000,000	Moukden.
20 Ching-te or Chi-ei	58,900	500,000	Parin.

DEPENDENT STATES.

Provinces.	Square Miles.	Population.	Capitals.
1 Corea -	80,000	10,000,000	King-Ki-tao.
2 Manchuria -	292,000	1,750,000	Moukden.
3 Mongolia -	1,300,000	5,000,000	Oorga.
4 Chinese Tartary -	490,000	2,500,000	Yarkand.
5 Thibet -	591,000	6,000,000	Lhasa.

Dzoungaria, until lately, also was tributary to China.

[The following are the meanings of the most common words in the above :—*Foo* = a town or province of the first rank ; *Chow* or *Chew* = do. of the second ; and *Hien* = do. of the third. *Pe* = N. ; *nan* = S. ; *tung* = E. ; *see* = W. *King* = court ; *ho* or *kiang* = river ; *shan* = mountain ; *hoo* = lake.]

TOWNS.

Pekin, or Peking, the capital of the empire, is about 100 miles from the sea, on a sandy plain. It consists of the northern or Tartar town, where the seat of government is, and the southern or Chinese town, the seat of commerce, and the residence of the bulk of the population. The city is within a high wall, the streets are narrow and dusty, and tradesmen generally work in the open air. The imperial palace is the chief building. The manufactures are glass, idols, and porcelain. In 1860 the British and French troops took the city, and sacked the emperor's summer palace in the suburbs. The population is about 2,000,000.

Tsin-tsin is the port of the capital. In 1858 a treaty was made here by which most of the ports were opened to foreign commerce.

Nankin (500,000) is about 90 miles from the mouth of the Yang-tse-Kiang. It has good streets and handsome shops, an observatory, manufactures of silk, paper, crape, satin, Indian ink, and Nankeen cloth, and is considered the literary capital. In 1842, a treaty was here made, by which the ports Canton, Amoy, Foo-chow, Ning-po, and Shang-hai, were opened to foreign trade.

Ching-Kiang, 50 miles distant, is a maritime city, taken by the British, 1842. Shang-hai (140,000) is enclosed by a high wall. With manufactures of silk, glass, and paper, it has great coasting trade. It was also taken in 1842. Ning-po (250,000) stands on a rich plain, on a river of the same name, and is a place of wealth and importance.

Foo-chow (1,000,000), on the Min-kiang, is situated among hills. It

is remarkable for extensive trade and industrious inhabitants. It has cotton manufactures, and good black tea is brought from the neighbourhood. Amoy (250,000), on the coast opposite Formosa, has very extensive coasting trade. It has porcelain and paper manufactures, and an excellent harbour. It was captured by the British, 1841. Chang-chow (700,000) is the centre of the silk trade.

Canton (1,000,000) stands on the Canton river, about 70 miles from the sea. It is a place of great importance; has long, winding, narrow streets, good shops, gardens, and pleasure-grounds. It is said 30,000 of the inhabitants live on floating rafts in the river. There are above 100 temples, and several schools and colleges. It is the greatest town for commerce in the empire. In 1841, the Chinese were here defeated, and the town taken by the British. Macao (50,000), 70 miles S.E., has belonged to the Portuguese since 1586. Kien-chow (600,000) has a large trade. Tai-yuen, in the interior, has porcelain, carpet, and iron manufactures. Tai-tong, near the great wall, is well fortified. Kai-feng, on the Hoang-ho, is the chief residence of the Jews in China. Honan, on the same river, is in the centre of the empire. Fong-yang, near the Hoang-ho, is a large city. Nan-chang is a populous city, with porcelain manufactures. Kin-to-ching (1,000,000) has the largest porcelain manufactures in the world. No foreigner has been allowed to enter it. Yun-nan, on a lake, has active trade with Burmah. Si-ngan is the military head-quarters of the northern provinces.

Mountains.—Besides the border ranges, the following are the most important:—the *Yu-ling*, which run along the S. near the Gulf of Tonquin; the *Nan-ling*, separated from the former by the valley of the Canton river, is a more extensive chain, also running E. and W.; the *Sin-ling* range, further to the W., runs N. and S. between the Yang-tse-Kiang and the Hoang-ho rivers; from the centre of this chain the *Pe-ling* mountains run E. a little S. of the Hoang-ho. In the N. the *Khin-ghan* range separates Manchuria from Mongolia. The *Kuen-lun* and *Nan-shan* mountains lie N. of Thibet.

Rivers.—The Yang-tse-Kiang, the longest river in Asia, rises in Thibet, traverses all the Chinese central provinces, and enters the Yellow Sea about 100 miles from Nankin. The Hoang-ho or Yellow River also rises in Thibet, passes twice through the Great Wall in a circuitous course, and falls into the Yellow Sea; but it has lately varied its course, some of its waters going into the gulf of Pechili. The Peiho, falling into the same gulf, has a bar at its mouth; it rises in Mongolia, and in the winter is frozen over.

Lakes.—The chief are *Tai-hou*, *Si-hou* (Western Lake), *Tong-ting*, *Po-yang*, and *Hong-tse*.

Islands.—*Hainan*, with a hilly interior and rocky coasts, produces much timber. It has good fisheries and some minerals. Its area is 12,000 square miles, and the population $1\frac{1}{2}$ millions.

Hong-Kong is 10 miles long and 7 broad, and has a rocky surface. It has belonged to the British since 1842. *Victoria*, the capital, is on the N. side. *Formosa* is about 240 miles long, and 100 broad; a mountain chain called the *Ta-chan* runs through the island, rising in one place to 10,000 feet. The valleys are rich and fertile, and the chief products are rice, maize, nuts, apricots, figs, sugar, and pepper. *Amoy* is a rugged barren isle.

Industries.—The two great national works are the *Great Wall*, which runs from the Gulf of Pechili, along the northern frontier, for 1,500 miles, and the *Grand Canal*, which runs from *Hang-chew* for about 700 miles to *Lin-chin*. It formed a convenient mode of transit for the rice fleet from the most productive provinces to the capital. The Chinese are very skilful in the manufacture of satins, china-ware, jewellery, and paper.

Education.—The Chinese language is monosyllabic, and words vary their meaning, not by inflection, but by their position in a sentence. It has long been the custom to make government appointments the result of competitive examinations, as has been lately adopted in our own country. The *Mandarins* are the learned class.

COREA.

The peninsula of Corea, forming a separate kingdom, tributary to China, is bounded on the N. by Manchuria, on the W. and S. by the Yellow Sea, and on the E. by the Straits of Corea and the Sea of Japan. It is about 500 miles long and 150 in breadth. The surface is diversified by a chain of mountains which runs along the E. coast, and is a continuation of those mountains which traverse Manchuria. Wherever the soil admits it is well cultivated, and the chief productions are oats, millet, rice, and ginseng, a plant whose root is deemed a cure for all diseases. Iron and salt are also found. In some districts there is a tree which yields a valuable varnish, and a peculiar kind of paper is

manufactured from cotton. The inhabitants are represented as being an ingenious, brave people, but rather suspicious and unsociable towards strangers. They have borrowed the most of their customs from the Chinese, but their language is different. Along the W. coast for about 200 miles extend numbers of small islands called the *Corean Archipelago*. The chief river is the *Toumen-Kiang*.

King-ki-tao, the capital, is near the centre of the country.

MANCHURIA.

Manchuria, in the N.E., between the Great Wall and the river Amour, is inhabited chiefly by Chinese traders and agriculturists. In the S. the surface is hilly and woody, but in the N. there are rich pastures; a portion in the E. has lately been ceded to Russia.

Moukden (200,000) is the residence of the viceroy. It is a fine town, regularly built, and inhabited by thriving citizens. Bows and arrows are largely manufactured. **Kir-in-Oola** is also an improving town.

MONGOLIA.

Mongolia is an elevated country, separated from Manchuria by the Khin-gan mountains. The desert of Gobi, consisting of a sterile wilderness of sand, is in the centre. The inhabitants are mostly wandering tribes, who exchange sheep, goats, etc., with the Chinese for tea and manufactured goods. Mongolia is about 1,200 miles from E. to W., with an average breadth of 500 miles. Though some good and extensive pastures exist, yet the general aspect of the country is barren. The Yellow river runs a short distance through it on the S.E.; the N.E. is drained by the Kerulen, a tributary of the Amour, and the N.W. by the Irtish, a tributary of the Obi. In the N. the Selenga flows to L. Baikal. The inhabitants, who are Buddhists, are in general shepherds.

Oorga is the capital. Kobnor and Ouliasutai have a little trade. Matmatchin, on the Russian frontier, opposite Kiachta, is a small town where exchanges are made. Between the towns there is about fifty perches wide, a kind of neutral ground. Karakorum, now in ruins, was the residence of Zenghis Khan.

CHINESE TURKESTAN.

Chinese Turkestan, or Thian-Shan Nan-loo, is bordered by the following mountain chains:—The Bolar Tagh in the W.; the Thian Shan in the N.; and the Isung Ling and Kuen Lun in the S. The river *Tarim*, which receives many tributaries from the mountains, flows E. into Lake *Lob Nor*, after a course of 1,500 miles. Several pretty large lakes are scattered over the country, and a part of the desert of *Gobi* is in the N.E.

Yarkand (50,000), on the Yarkand Daria river, a tributary of the *Tarim*, is the capital. It has considerable trade.

Cashgar, or Kashgar, on a river of the same name, has trade across the hills with Bokhara. Aksu, in the N.W., is on the great caravan route to China.

THIBET.

Thibet or Tibet is an elevated region, between the Himalaya mountains on the S. and the Kuen-Lun and Nan Shan ranges on the N. It contains the sources of most of the large rivers of Asia, and has many large lakes—*Paltee*, with a large island in the centre, *Tengri Nor*, *Baka Nor*, etc. Little is known of the interior. The Brahmapootra runs through a valley from W. to E. *Lhasa*, the capital, is 11,700 feet above sea-level.

TURKESTAN.

Turkestan consists of a number of states independent, or almost independent, of each other. It extends from Afghanistan to Thian Shan, from the sea of Aral on the N.W. to the Hindoo Koosh mountains on the S.E. It is drained

by the Amoo or Sihoon (ancient Oxus), which flows into the sea of Aral. Fruits of great excellence are produced, including apples, grapes, melons, etc. Gold and precious stones are found in small quantities. Manufactures of cotton, silk, linen, and woollen goods, with shagreen and other kinds of leather, are carried on. In the S. several hordes of Turkomans wander about, and acknowledge little authority beyond that of their chiefs.

Bokhara (15,000) is a splendid city, the capital of the Khanate of the same name. The numbers of trees give it the appearance of being in the centre of a forest. It is an important seat of Mahometan learning, has 300 or 400 mosques, and above 100 schools or colleges. It is also an important seat of trade, frequented by many eastern merchants.

Samarcand (10,000), once the capital of the empire of Tamerlane, is now of little importance, though situated in a delightful valley in the midst of beautiful gardens. It has great caravan trade; and contains Tamerlane's tomb, which is much venerated by Asiatics.

Balkh (2,000) is a very ancient city, once possessing great trade, but now much reduced. **Khokan** (90,000) is the capital of a state of the same name. **Tashkend** (30,000) has manufactures of silk, cotton, and gunpowder. **Khiva** (100,000), also the capital of a province of the same name, has extensive caravan trade with Russia. It is the greatest slave market in the East; and was taken by the Russians a few years ago.

ASIATIC RUSSIA.

Asiatic Russia includes Siberia, Trans-Caucasia, a portion of Manchuria, and the recently conquered provinces of Dzoungaria and Kuldja.

Siberia slopes gradually from the Altai mountains to the Arctic Ocean. It is a cold inhospitable region, frozen in winter to the depth of several hundred feet, and in the hottest summer only thawed to the depth of four feet. It is much colder than places in the same latitude in North America, for reasons already explained.

Districts.	Sq. Mls.	Population.	Capitals.
1 Siberia - - -	5,205,079	4,625,000	Tobolsk and Irkutsk.
2 Caucasia - - -	170,798	4,257,704	Stavropol and Tiflis.
3 Dzoungaria - - -	70,000	2,000,000	Tchugutchak.
4 Kuldja - - -	20,000	700,000	Kuldja on the Ili.

Siberia is divided into E. and W., the capital of the former being Omsk, and of the latter Irkutsk. In the W. extensive forests cover the central and N.W. districts ; but on the borders of the Caspian and Sea of Aral are vast steppes, similar to those in European Russia. Some of the valleys produce abundance of fruits. A race of small stature inhabits the borders of the Arctic ocean, called *Samoiedes*, very ignorant and degraded, fishers and hunters ; and the steppes are inhabited by *Kirghis*, a Turkish tribe, nomadic in their habits.

Omsk (11,000), on the Irtysh, has trade in furs, brandy, and tobacco.

Tobolsk (20,000), on the Irtysh, is a great centre of commerce. **Tomsk** has a military school, and trade in minerals. **Barnaul** is much engaged in smelting the minerals of the Altai mountains. **Krasnoïarsk** (7,000) has tanneries, and trade in furs. **Koryvan** has jasper quarries in its neighbourhood. **Berezov**, on the Obi, is the abode of many illustrious Russian political exiles. **Ekaterinburg** (15,000) is in the European government of Perm, and is much engaged in the mining industry of the Urals. **Tiumen** (10,000) is on the great road to Tobolsk. **Guriev**, near the mouth of the Ural river, has a spacious harbour, with increasing trade.

Eastern Siberia contains all the vast region E. of an irregular line drawn from about 96° E. longitude on the S, to 113° on the Arctic ocean ; but bending eastwards on the 60th parallel to 105° E. longitude. It contains the peninsula of Kamtschatka, the island Saghalien, and a coast district E. of Manchuria, extending to D'Anville Gulf on the sea of Japan. It contains many mountain chains, several lakes, forests, and large rivers. Its chief wealth consists in its furs.

Irkutsk (20,000) is a good town on the river Angara, amidst beautiful scenery, and containing several fine public buildings.

Kiachta, on the Chinese border, is a place for the merchants to exchange goods. **Nertchinsk** is in the midst of quicksilver and lead mines. **Okhotsk** is a small port on the sea of the same name. **Yakutsk**, on the Lena, in the midst of marshes and forests, has important trade in ivory and furs. **Petropaulovski**, the capital of **Kamtschatka**, is a small port with trade in furs, etc.

Caucasia is divided into two provinces, *Cis-Caucasia*, N. of the Caucasian mountains, and properly included in Europe, and *Trans-Caucasia*, S. of that range. Two roads cross the mountains, one along the shores of the Caspian, the other crossing the Caucasus in the centre. A great number of tribes live in this region, many of which are brave, intelligent, and beautiful in person. The country on the N. side rises gradually from the steppes, while on the S. an elevated region connects the mountain with the Armenian highlands. The tribes have of late years given much trouble to the Russian government. The chief rivers in the S. are the *Kur*, and the *Aras*, its most important tributary. On the N. the *Terek* and the *Kuma* flow into the Caspian, and the *Kuban* into the sea of Azov.

Stovropol, the capital of *Cis-Caucasia*, has manufactures of soap and leather.

Tiflis (40,000), on the *Kur*, is the most important town in *Trans-Caucasia*. It is an active town, with trade in fruits, and has many manufactures. **Baku** is one of the chief ports on the Caspian. **Erivan** is the capital of Russian Armenia.

Dzoungaria, situated on the N. slopes of the Thian-Shan mountains, belonged to China till 1864, when the Mongols* achieved independence. The Russians crossed the border river, *Borochudsir*, in May, 1871; and, after several engagements, entered *Kuldja*. This is a mountainous region, with "fertile valleys skirting the wild declivity of the hills." It is about twice the size of Ireland: population

* A Tartar tribe of Mahometan faith.

two millions, of whom three-quarters of a million are natives, the remainder being chiefly Chinese settlers. The minerals are coal, gold, silver, and copper; cattle and horses are numerous, and corn and fruit can be raised.

The towns, in addition to the capital, are *Barkol* and *Urumtsi*, both small and unimportant.

Kuldja, a district, on the Thianshan hills, is rich in minerals and vegetables. It has been conquered by Russia, very recently. It formerly belonged to China; and with Dzungaria was known as Thian Shan-pe-loo.

Kuldja or *Guldeha* is in the W. on the river *Ili*, a little N. of the Nan Shan hills.

Mountains.—The Ural and Altai ranges have been described. In the extreme E. there are many mountain chains of considerable length, such as the *Yablanoi*, *Stanovoi*, etc.

Rivers.—The *Obi*, on which is the town of *Tomsk*, is joined by the *Irtish*, which passes *Omsk* and *Tobolsk*; and the united stream enters the Gulf of *Obi* after passing *Berezov* in its course. The *Yenisei* rises in Mongolia, passes *Yeniseisk*, and enters the gulf of this name. On one of its tributaries—the *Angara*—is the town *Irkutsk*, near *Lake Baikal*. The *Lena* rises near this lake, receives many tributaries, and passing *Yakutsk* and *Bulun*, enters the sea by several mouths. The *Anadyr* flows into a gulf of the same name, near *Behring's Straits*.

Lakes.—*Baikal*, bordered on the W. by a mountain of the same name, is long and narrow, has an area of 20,000 square miles, and is 1,280 feet above sea level. *Balkash* is about two-thirds as large, and receives the river *Ili*. The *Sea of Aral* and *Caspian Sea* are still further west.

JAPAN.

The empire of Japan consists wholly of islands (the largest being *Nippon*, *Yesso*, *Sikok*, and *Kiu-siu*) in the Pacific Ocean, to the E. of the Chinese Empire. The general surface is mountainous, and there are some active volcanoes; the highest peak, *Fusi-yama* (14,000 feet), is in the island of

Nippon. These islands are rich in minerals, especially copper, which is much used, as in China, for the manufacture of common utensils, and is exported to a considerable extent. Coal is also an important mineral. Next to literary pursuits, agriculture is held in the highest estimation. No spot of ground is left untilled ; and cultivation is carried on even to the tops of the hills. Rice is the principal crop cultivated ; but ginger, cotton, pepper, indigo, and tea also rank among the productions. The Japanese, the most jealous people in the world of foreigners, excel in various industries, as the manufacture of silks, cottons, porcelain, and japanned ware. Only in the island of Yesso, where the inhabitants maintain themselves chiefly by hunting and fishing, is there an inferior civilization. The government of Japan is despotic, and, like China, exceedingly jealous of European intercourse. Till 1859 only one port, *Nagasaki*, in Kiusiu, was open to general foreign trade, but by a treaty negotiated in 1858 at *Jeddo*, two additional ports, *Kanagawa*, in Nippon, and *Hakodadi*, in Yesso, were opened to European commerce, and another, *Niegata*, in Nippon, was added in 1860. The empire of Japan has two capitals, Jeddo and Miako, both in Nippon ; the former, the ecclesiastical capital, is the residence of the nominal emperor, who confers all honorary distinctions, and has the entire superintendence of religion and education. The latter may be termed the political capital. It is the residence of the real emperor, or Tycoon, originally a military commander. At *Yokohama* there is an English and French garrison. The *Kurile* and *Loo-choo Isles* also belong to Japan. A new system of coinage has been lately introduced, and the introduction of the English language is now much encouraged.

AFRICA.

Africa, the least known and least civilized of the great divisions of the earth, is 5,050 miles long from Cape Ras-el Kerun to Cape Agulhas, and 4,600 broad, from Cape Verd on the W. to Cape Guardafui on the E.

It lies between 37° 40' N. lat. and 34° 39' S. ; and between the meridians 17° 28' W. and 51° 20' E. longitude. The present population is about 180 millions.

The following are the usual divisions of Africa: I. Northern Africa, or the Barbary States. II. North-Eastern Africa, or Region of the Nile. III. The Sahara or Great Desert. IV. Western Africa, including Senegambia. V. Eastern Africa. VI. Southern Africa. VII. African Islands.

TABULAR VIEW OF AFRICA.

	Square Miles.	Population.	Capital.
NORTHERN AFRICA.			
1 Morocco, - - -	303,100	8,500,000	Morocco.
2 Algeria, - - -	258,305	3,000,000	Algiers.
3 Tunis, - - -	43,201	950,000	Tunis.
4 Tripoli, - - -	344,401	750,000	Tripoli and Mourzouk.
NORTH-EASTERN AFRICA.			
1 Egypt, - - -	659,073	7,360,000	{Cairo.
2 Nubia, - - -			{Khartum.
3 Abyssinia, - - -	97,000	4,500,000	Gondar.
SAHARA.	2,200,000	150,000	Agades, etc.
WESTERN AFRICA.			
1 Senegambia, - - -	97,000	1,650,000	Bathurst.
2 Nigritia, - - -	1,600,000	60,000,000	Timbuctoo.
3 Upper Guinea, - - -	397,000	16,000,000	Cape Coast-Castle.
4 Lower Guinea, - - -	368,000	14,000,000	Loango.
EASTERN AFRICA, -	300,000	16,000,000	Zanzibar.
SOUTHERN AFRICA, -	2,100,000	17,000,000	Cape Town.
ISLANDS, - - -	250,000	5,700,000	Antananarivo.

In addition, there is an extent of unexplored country, with an approximate area of 2,000,000 square miles, and a population of ten or twelve millions. Indeed many of the statistics above are mere approximations.

Bays, etc.—On the N. the gulf of *Sidra* in Tripoli, *Cabes* and *Tunis* in Tunis. On the W. the gulf of *Guinea*, in the interior of which are the bights of *Benin* and *Biafra*; in the S. are the bays of *St. Helena*, *Saldanha*, *False*, and *Algoa*; on the E. Mozambique channel and the Red Sea.

Islands.—The *Madeira*, *Canary*, *Azore*, and *Cape Verd* groups on the W.; Fernando Po, Princes, St. Thomas, and Annobon, in the gulf of Guinea; *Bourbon*, *Mauritius*, the *Amirante*, and *Seychelle Isles*. *Madagascar* and *Socotra* on the E.

Mountains.—*Atlas*, in the N.W.; *Kong*, in the W.; the mountains of Abyssinia; *Lupata*, in Zambezia; the *Drakenberge*, in Natal; and *Complida*, in Loango.

Lakes.—Lake *Tchad*, S. of Fezzan, near Bornu; *Great Lake*, *Albert Nyanza*, and *Victoria Nyanza*, under the equator; *Tanganyika*, directly S. of Albert Nyanza, *Nyassa*, and *Shirwa*, near Mozambique.

AFRICAN RIVERS.

Very little is comparatively known of the African rivers. They are neither of that volume or length which the extent of the continent would seem to warrant. This is doubtless, in some measure, owing to the existence of very extensive deserts and sandy plains, in which little evaporation takes place, and even the moisture of adjacent districts is neutralized by their heat and power of absorption. As a natural consequence the rain-fall is less than in any of the other continents. Its eastern winds are also peculiarly dry; passing over vast masses of land, their moisture is gone before they reach the African continent. These causes, together with the confined mountain system, and others acting in concert, may, in some measure, account for the meagre river system of Africa. The *Nile*, flowing into the Mediterranean;

the *Zambezi*, flowing E. On the W. are the *Senegal*, *Gambia*, *Niger*, *Zaire*, and *Orange Rivers*.

Capes.—On the N., *Bon* ; on the E., *Guardafui*, *Delgado*, *Amber*, and *St. Mary* (in Madagascar), *Corrientes*. On the W., *Blanco*, *Bojador*, *Verd*, *Palmas*, *Nun*, *Three Points*, *Lopez*, *Negro*, *Frio*, On the S., *Good Hope*, and *Agulhas*.

The Nile, the chief river, is supposed by Captain Speke to rise in Lake Victoria Nyanza. It is composed of the White and Blue Nile, and flows through Abyssinia, Nubia, and Egypt in a very sluggish stream. About 110 miles from the Mediterranean it divides into two main streams ; between these is the Delta, and by these and some other minor outlets it discharges into the Mediterranean. The Nile has been known historically to the civilized world from the earliest times. It annually overflows its banks and inundates the surrounding country. In early ages this was regarded with wonder and awe, but the phenomenon has been explained by modern geographers, being the result of heavy tropical rains. Disastrous effects often result from the rise of the river being greater or less than what is usual. In the former case whole villages are swept away, and many lives lost. In the latter, there is a scarcity of water to fertilize the soil and fill the canals out for its retention and preservation. These canals are used when the inundation subsides to renew the drooping vegetation. The valley of the Nile consists of a fertile strip, varying in breadth from less than one mile to twelve miles. On this noble river are many reminiscences of Egyptian greatness—remains which, even in this refined nineteenth century, are viewed as the works of a people gifted with a high order of genius and of art—works which, if ever equalled, have not been excelled in either conception or execution since the time of their construction. Amongst these we may mention the pyramids, sphinxes, obelisks, and ruins of many beautiful temples and other buildings. The Nile abounds with crocodiles (most numerous in Nubia), hippopotami, and other large animals, and its banks are covered with luxuriant vegetation, while the valleys are yellow with waving grain. Rice, cotton, sugar, tobacco, are cultivated and quickly arrive at maturity, influenced by the action of the tropical heat on a humid soil. Particularly in its upper course, the scenery is of picturesque beauty. On its banks are Alexandria, Rosetta, and Damietta (on the Mediterranean) ; Cairo, Gizeh, Memphis, Minieh, Siout, Keneh, Thebes, Esneh, Derr, New Dongola, Berber, Meroe, and Khartum.

The *Zambezi*, called in the upper part of its course the *Leambye*, flows some distance S.E., and below the Victoria Falls turns N.E., and then E. past *Tette*, where it again turns S.E., and 100 miles from

the sea, receives the *Shire* from Lake Nyassa. It forms a delta about 50 miles from the sea. The Falls, which are about mid-way in its course, are described by Dr. Livingstone as the most wonderful sight he ever witnessed in Africa.

The **Senegal** drains nearly half of Senegambia. It is formed of two streams, and after passing into the plain, divides into two separate streams for about 100 miles, when they re-unite. It enters the sea by two mouths. Its whole length is about 1,800 miles; and the tide ascends the river about 180 miles.

The **Gambia** is a more navigable river than the Senegal. One-half its course is through the mountain region. Its mouth is four miles wide, and for about 120 miles up the river the ground is level. At its mouth is Bathurst, and up the river Pisania.

The **Niger**, first explored by Mungo Park (1796), rises in the Kong mountains. Above Timbuctoo it is by the natives called *Joliba*, and below it *Quorra*. On its banks several tribes live in a state of perpetual hostility to each other. It has a rather winding course, and enters the Gulf of Guinea by several mouths.

The **Zaire** or **Congo** is still unexplored in its upper course. It is the largest African river S. of the equator, and is 10 miles wide at its mouth.

The **Orange** river, rising 10,000 feet above sea-level, in *Mont aux Sources*, forms the N. boundary of Cape Colony. The *Great Fish* river and the *Vaal* are its most important tributaries.

NORTHERN AFRICA.

THE BARBARY STATES.

Of the four Barbary States, two—Morocco and Tripoli—are independent. Algeria is subject to France, and Tunis to Egypt.

MOROCCO extends from a little S. of Cape Nun on the Atlantic, to the river Mulluvia, which separates it from Algeria. It is traversed by the Atlas range, which runs from S.W. to N. E. The rivers flowing into the Atlantic are the *Draa*, *Tensift*, and the *Sebu*; the *Mulluvia* has a course of above 400 miles, and flows into the Mediterranean. The climate on the N. W. is temperate, being moderated by the Atlantic breezes and sheltered from the desert-heated winds;

but in the S. E. rain is unknown : here the heat is intense, and the climate tropical. The country produces wheat, maize, dates, cotton, fruits, and hemp. Copper is found at Teseleght, and some gold, silver, iron, and lead, in other places. Wild animals are numerous; lions, panthers, hyænas, wild boars, wild deer, and ostriches are found in the S.E. The people are Moors, Berbers, Arabs, and Jews, with considerable intermixture. The Moors are most numerous. Many of the tribes are completely savage. Morocco is divided into four territories—Fez, Morocco, Suse, and Tafilet. The chief manufactures consist of fine silks, and leather of various colours, yellow, green, and red.

Morocco (50,000) stands in the S. W. near a fertile plain. It is badly built, has narrow streets, but many good mosques, and some leather factories. Fez (90,000) has trade in silk, leather, and cochineal. Mequinez (50,000) has a royal residence. Mogador is a port on the Atlantic. Rabat has an imperial dockyard. Tangier, which came into possession of England in 1662, and was held till 1684, is on the Straits of Gibraltar, and has an active trade. Ceuta, directly opposite Gibraltar, with a few settlements near, belongs to Spain, and is used as a place of political exile. Tetuan (15,000) is in the midst of large orange groves and vineyards.

Algeria lies E. of Morocco, and is divided by the French, to whom it has belonged since 1830, into three departments—*Algiers*, *Oran*, and *Constantine*. It is naturally divided into the narrow and fertile plain near the Mediterranean, the hilly plateau formed by continuations of the Atlas Mountains, and the district more S. bordering on the desert, called *Al-Koblah*. This country is rich in minerals: rock-salt, copper, lead, etc. The cultivation of cotton is increasing. The inhabitants are mostly Arabs.

Algiers (60,000), the capital of the country and its military headquarters, has active trade, and steam communication with Marseilles, Toulon, Oran, and Bona. It was notorious for piratical depredations; and was bombarded by Lord Exmouth, 1816, and taken by the French, 1827. Bledah (9,000), in the S.W., has iron mines, trade in grain and essences, and is connected with the capital by rail.

Medeah (3,000) has trade in wines. **Millianah** (2,000) has also trade in wines and cereals. **Constantine** (26,000), capital of the department, is strongly built, and has trade with the interior. **Bona** (12,000), with active trade in grain, wool, oil, tobacco, etc., has iron mines near it. **Philippeville** (9,000), a port, has vast forests and marble quarries near it. **Oran** (30,000), a fortified port, is the capital of the department. **Mascara** (7,000), has trade in olive-oil, wines, and woollens. **Mostaganem** (6,000), near the coast, has trade in silk, cotton, wine, and tobacco. **Tlemcen** (13,000) has lead and quick-silver mines, trade in oil, etc.

Tunis lies E. of **Algeria**. The Mediterranean washes it on the north and E. to a distance of about 400 miles. The shore in the bay of **Tunis** is low and swampy, but rocky on the N. The shores of the gulf of **Cabes** are also low. The country in the N.W. is mountainous, containing the *Frigean* and *Mogody* mountains, rising to an elevation of about 5,000 feet, with fertile slopes. Though agriculture is backward, crops of wheat, maize, tobacco, and olives are raised; dairy farming and sheep rearing are important industries. In the W. the country is well wooded, and lions, panthers, lynxes, and wild boars are numerous. In the S. is the large salt lake, *Al-Sibhah*, mostly dry in summer, but seventy miles long in winter. The climate is dry and healthful, and is greatly moderated by the sea breezes. Flies and scorpions are very troublesome to foreigners.

Tunis (170,000) is a large commercial city, situated about six miles from the sea, on a gently rising slope, not far from the ruins of **Carthage**. Its streets are narrow, winding, and poorly paved. The palace of the Bey is a splendid residence, richly furnished. In its harbour, a few miles distant, active trade is carried on. It exports olive oil, wool, fish, grain, with ivory and ostrich feathers brought from **Timbuctoo** by caravans. It has manufactures of woollen and leather fabrics of various kinds.

Kairwan (50,000), in a fine plain, contains many remains of its ancient greatness. It has the largest mosque in Africa, and was the capital of the African Saracens in the eighth and ninth centuries.

Kafr, on the W. frontier, is a strong fortress.

Cabes (30,000) has an active export trade in dates. **Susa** (8,000) and **Bizerta** (6,000) are small seaports.

Tripoli extends along the coast of the Mediterranean (with the gulf of Sidra in the centre) from 11° to 25° E. longitude, bordering on the desert in almost every other direction. The *Gharian* mountains cross the country about 20 miles from the sea, and the *Sudah* about 30 miles further S., among both of which corn and fruits are largely grown. A marsh, 100 miles long, borders the W. shore of the gulf of Sidra, and a sterile tract is at its southern shore.

Fezzan is a dependency of Tripoli, and extends a considerable distance into the Sahara.

Barca, in the E., is also a dependency, with a surface consisting of a table-land. No rivers are found in Tripoli. The rains are abundant from November to March. Crops of grain are raised on the tops of the plateaux, and vines, olives, figs, etc., on the sides. The Bedouin Arabs are the principal population.

Tripoli (2,000) stands on a rocky promontory. It is defended by a castle, and consists mostly of narrow streets. Trade is chiefly in the hands of Jews. The harbour is good, and the commerce active.

Mourzuk (4,000), the capital of Fezzan, is a great centre of caravan trade, and also of the slave trade. **Dernah** (5,000), in Barca, is a small port. **Benghazi** (5,000) is the residence of the governor of Barca. **Ghadames** is a town on the borders of the Sahara.

SAHARA.

Sahara, or the Great Desert, extends from the Atlantic to the confines of Egypt, and embraces a sandy surface, consisting of table-lands, mostly without vegetation and without water. In various places green patches exist called *oases*; and the chief food of the few people found in the desert consists of dates. The inhabitants are much addicted to plunder, and travellers go in companies, called *caravans*, for mutual protection. Numerous elevations rise from 3,000 to 6,000 feet. The heat by day is oppressive, and the cold by night is often intense. The rain falls in

torrents; but in some places there is no rain for years. The *Simoom* is a very pestilential wind, which prevails in the desert, but only lasts ten or twelve hours at a time.

From Morocco to Timbuctoo there is a caravan route, the place of rendezvous being Tatta. Another is from Mourzuk to Agdass, whence it proceeds to Bornou, beyond Lake Tchad, and other places.

EGYPT.

Egypt extends from the Mediterranean to Nubia, about 500 miles, and lies between the Lybian desert, on the W., and the Red Sea, on the E. The only arable land in Egypt is the *Delta* and *Valley of the Nile*; the former is an alluvial tract, of a triangular shape (*Greek* Δ), formed by the bifurcation of the river; and the latter, with an average width of six miles, running from the apex of the Delta (near Cairo) to the Nubian frontier, being enclosed on either side by rocky hills. These districts are irrigated and enriched by the annual overflow of the Nile.

Egypt is governed by a hereditary Pasha, now called a Khédive, who is only nominally subject to the Porte. This country will soon be much better known, the great enterprise of opening the Suez canal having proved successful. It extends from *Port Said* to *Suez*, a distance of 100 miles. The Delta produces abundance of rice, and other places produce wheat and barley. Cotton and sugar are also important products. *Lower Egypt* extends from Cairo to the Mediterranean, *Middle Egypt* from Cairo to Manfalout, and *Upper Egypt* or *Said* thence to the borders of Nubia.

TOWNS.

Cairo (260,000), called "Grand Cairo," is situated on the Nile on the slope of a hill. The streets are narrow and crooked, but kept pretty clean. The houses are roomy and well built. Rain is seldom seen, but the dews are heavy. The mosques number nearly 400. The commerce is extensive, and caravans proceed to Sennaar and Mourzuk: specimens of all the negro tribes are here met with in the slave market. Boulak is an important suburb.

Alexandria (60,000) is divided into the Turkish and Frank quarters, the one ill built and dirty, the other well built and well paved.

is a great commercial mart, and is connected with the Nile by a canal 48 miles long. This is the chief station of the Khédive's fleet, and the seat of commerce with Europe. Near the city are the ruins of the ancient Alexandria, built by Alexander the Great, B.C. 332. Here, in 1801, Sir R. Abercrombie (who was mortally wounded in the action) defeated the French; and five months later the French garrison yielded to General Hutchinson. The steamers from Brindisi ply to this port, whence the mails are carried by rail to Cairo, and thence to Suez. It is the birth-place of Euclid. Rosetta (4,000), 45 m. N.E., is a small port, which was taken by the French, 1798, and near it is *Aboukir* bay, where Nelson defeated the French fleet, 1798. *Damietta*, on a narrow neck of land between the Nile and Lake Menzaleh, was once an important place. Suez (3,000) is now becoming more important since the canal was opened. *Matrieh* is the seat of the Egyptian worship of the sun. Here, in 1800, the French defeated the Turks. *Ghizeh* is three miles above Cairo on the opposite side of the river. Here eggs are hatched in ovens by artificial heat; and near is the finest of the pyramids, rising 460 feet in elevation, as well as the largest sphinx, a colossal figure, "with the head and shoulders of a man, and the body of a lion," cut out of the solid limestone. *Siwah* is in an oasis on the way to Fezzan. *Siout* (20,000), the capital of Upper Egypt, was, until lately, a great slave market. It has manufactures of pipe-bowls. *Girgeh* (6,000) has a cotton factory. *Assouan* is on the borders of Nubia, and has trade in dates, senna, charcoal, etc. *Kenneh* or *Ghennah* has extensive trade with Arabia and Central Africa.

NUBIA AND KORDOFAN.

These countries lie between Egypt and Abyssinia, and consist in the N. of deserts and rocks, but of hills and plains in the S., with many vast forests. The climate, though hot and dry, is very healthy. Rain seldom falls. The usual divisions are Lower and Upper Nubia, the latter including *Dongola*, *Meroe*, and *Sennaar*. The desert district of *Kordofan* is separated from *Sennaar* by the White Nile, which unites with the Blue Nile near Khartum. These countries are subject to Egypt.

Khartum or *Khartoum* (15,000), on the White Nile, has flourishing trade. *Sennaar* (5,000) has considerable manufactures of arms, leather, sandals, and jewellery.

Derr (3,000) is surrounded by palm groves, and vines, from which much grapes are produced.

New Dongola (5000) is an important trade depot, and has an indigo factory. **Berbex** (8,000) is a slave mart. **Shendi** (9,000) is a caravan centre, with active trade.

ABYSSINIA.

Abyssinia is, for the most part, a plateau rising from 6,000 to 8,000 feet above sea-level, with lowlands towards the Red Sea, where the heat is very extreme. On the highlands, where the temperature is agreeable, rain falls from April to October, with little intermission, which causes a luxuriant vegetation. Some of the mountains have an elevation of 15,000 feet. The crops consist of wheat and barley, with beans, onions, etc. Cotton grows in the plains, and *teff* is the principal food of the inhabitants. It is a kind of pulse, and grows everywhere, unless on the tops of the plateaux. The black sheep are carefully tended on account of their valuable wool. The towns are very small, and the government unsettled. *Dembea* is a very large lake, 450 miles in circumference, in an extensive plateau of the same name. The Blue Nile passes through it. *Tigré*, in the N., *Amhara*, in the centre, and *Shoa*, in the S., are the chief divisions of Abyssinia.*

Gondar is the capital of Amhara, and the residence of the patriarch; **Antalo** of Tigré, and **Ankobar** of Shoa.

Magdala is a fortress which was taken by our troops in 1868, when King Theodore was killed and the European captives liberated. **Massowah**, though the chief port of the country, belongs to the Egyptians as a part of Nubia.

Adal is a district along the Red Sea, S. of Massowah, which extends above 300 miles, and produces gums of great variety. **Aussa** is its capital.

* The inhabitants fast 192 days in the year, abstain from meats according to the Law of Moses, and keep Saturday holy as well as Sunday.

French Possessions.

Zoullah, on Annesley Bay ; *Edd* and *Obock*, with the small isles of *Desset* and *Ouda*.

WESTERN AFRICA.

Senegambia extends from the Senegal, its northern boundary, to Yary Bay, reaching about 300 miles into the interior. It has a great number of forests of acacias, which yield the gum-resin. The name, though once applied to the country between the two rivers, Senegal and Gambia, yet has now the more extended application used above. It contains also the rivers *Rio Grande* and *Sierra Leone*. The climate is hot and humid, and to Europeans very unhealthy. The *harmattan*, a very dry wind from the desert, is often troublesome.

Three tribes and many small communities of negroes inhabit this region : (1) the *Jaloofs*, on the N. coast, a very low stamp of the human race ; (2) the *Foolahs*, a gentle race, in the interior, much more advanced in civilization : (3) the *Mandingoes*, who dwell in the S., and are engaged at agriculture and manufactures.

British Possessions.

Bathurst (7,000), on the Isle of St. Mary, at the mouth of the Gambia, is the headquarters of the "Gambia settlement." *Sierra Leone*, called the "white man's grave," is inhabited chiefly by liberated slaves. **Free Town**, its capital, is at the mouth of the Rokelle, or Sierra Leone river. This colony has an area of 465 square miles, and a population of about 40,000. The exports consist of palm oil, cocoa nuts, hides, ginger, and gum. The whole of the Dutch possessions have just been ceded (1872) by treaty to Great Britain. They consist of *Elmina* and other settlements. *Lagos*, an important town, was ceded to Britain (1861), with some territory around. It exports cotton, palm-oil, lead, indigo,

and camwood, brought from the interior ; and a bi-weekly post goes to *Rabba*, a town 250 miles distant, on the Niger.

Gold Coast has settlements destined as well as Lagos for the suppression of slavery. Gold, ivory, and gum are the chief exports.

French Settlements.

St. Louis (12,000), the capital of the French settlements, is at the mouth of the Gambia, and is inhabited mostly by Negroes. It has trade in gums. **Goree** is a small fort near cape Verd.

Portuguese Settlements.

These consist of **Bissao** (7,000), one of the strongholds of their slave traffic, built on an island. **Jeba** is a less important place.

Guinea is usually divided into Upper and Lower ; the former between the Kong mountains and the gulf of Guinea, and the latter extending from the equator to cape Negro. Upper Guinea includes all the British settlements, with many other states.

Liberia is a republic of free negroes, who have escaped from the United States and other places. It is productive and thriving. This country, which became independent in 1847, has now several coasting and other vessels trading with Great Britain, Holland, and the United States.

Monrovia, the capital, is a good town, with trade in rice, indigo, yams, and other fruit. **Bexley** is the only other town worth naming.

Ashantee is a native state, lying inland, with *Coomassie* for its capital. **Salagha** is a large commercial town.

Dahomey is another native kingdom of great power and extent. It has *Abomey* (25,000) as its capital, in which the people are extremely barbarous, and even offer human sacrifices.

Yariba is also an extensive native kingdom, about which very little is accurately known.

Benin, **Wari**, **Attah**, **Qua**, and **Biafra** have for their capitals, **Benin**, **Wari**, **Eboe**, **Attah**, **Old Calabar**, and **Biafra**.

Nigritia or **Soudan** lies S. of the Sahara, N. of Guinea, and W. of Senegambia. It is, generally speaking, a flat country, but hilly on the S. and W., with a fertile soil, and an extremely hot climate, consisting of two seasons—the dry and the rainy. This district is divided into a number of petty states inhabited by negro tribes.

Timbuctoo (40,000), on the borders of the Sahara, is a place of great importance, being a caravan rendezvous for Morocco, the interior, and Senegambia. It is under a chieftain.

Sego (25,000), about 370 miles S.W., stands on the Niger, by which it has active trade. Here Mungo Park first saw the Niger.

Jenneh (10,000), with extensive trade, is situated on an island in the Joliba. Here the shops are supplied with British manufactured goods. **Boussa**, on an island in the Niger, is the place where Mungo Park was murdered. **Yaouri** is the capital of a state of the same name. **Kano** has manufactures of silks and dyeing establishments. **Sackatoo** (80,000) is one of the most important cities in Central Africa. It is a centre of considerable trade. **Yola** has trade in slaves and ivory. **Kouka** (10,000) is the capital of the powerful kingdom of Bornou. **Wara** is a large town; and **Kobbé** is a resort of caravans.

Lower Guinea comprises Loango, Congo, Angola, and Benguela. It is inhabited by negroes, who, with the exception of the Ashantees, are in a backward stage of civilization. They speak various languages, bearing very little resemblance to each other.

Loango (15,000) has considerable intercourse with Europeans.

San Salvador is the residence of a chief who claims supremacy over several districts. **St. Paul de Loando** is the residence of the Portuguese government of Western Africa. **Benguela** is the great centre of Portuguese trade. It has long been noted for its slave exports.

EASTERN AFRICA.

Eastern Africa may be considered as extending from Natal to the gulf of Aden. In physical aspect it closely resembles Western Africa, consisting of maritime plains, uplands running parallel to the coast, and depressions in the interior. A large part of this district belongs to the Portuguese, whose

dominions have been gradually diminishing. N. of the Portuguese settlements, the coast district is subject to the Imaum of Muscat.

Sofala is a coast district between the mountains of Lupata and the sea.

Sofala (3,000), the capital of the district of the same name, has greatly declined.

Sena or **Senna** is about 250 miles up the river *Zambesi*. The houses are small. **Inhambane** (5,000) has trade in ivory and bees' wax. **Tete** (4,000) has coal fields and iron-stone in the vicinity.

Mozambique is a coast district lying along the northern shore of the channel of the same name.

Mozambique (6,000) stands on an island in the bay, and is the residence of the Portuguese governor. It has trade in gold dust.

Quillimane, visited by Dr. Livingstone in 1856, has a good supply of coal, with trade in gold dust and slaves.

Zanguebar or **Zanzibar** extends along the coast from Cape Delgado to the equator.

Zanzibar or **Shanganny** (10,000) is the capital of the dominions of the Imaum of Muscat. **Melinda** is almost in ruins. It stands on an island. **Magadoxo**, a walled town, is a seat of trade. **Berbera**, further N., on the Gulf of Aden, has an important fair. **Hurrur**, in the Galla Country, has exports of coffee, and **Zeyla** is its port.

SOUTHERN AFRICA.

Southern Africa consists of *Cape Colony*, *Natal*, *Kaffraria*, *Orange River Free State*, *Transvaal Republic*, and the *Country of the Hottentots*.

British Possessions.

Cape Colony, with an area of 200,000 square miles, and a population of 600,000, extends from the Orange River in the N., to the Cape of Good Hope in the S., and includes British Kaffraria. There are three mountain ranges; the most inland, known as Snowy Mountains, being the highest. South

of the first range is a rich maritime district. The coast-line of the colony is 1,200 miles long. The actual cape is 36 miles long, rugged and hilly, culminating in Table Mountain, behind Cape Town. Saldanha Bay, on the W., is an excellent harbour; Table Bay is hardly so good. North of the Snowy Mountains the surface slopes gradually to the Orange River, much desert-like land intervening, called *Karroos*. The wild animals include the giraffe, zebra, lions, buffaloes, etc.

British Kaffraria lies E. of the Cape Colony, with which it has been united since 1866. Agriculture and grazing, for which this country is admirably suited, are the chief industries. The discovery of diamonds in the district of the Vaal River has caused a great immigration, which still continues. Wool, wine, brandy, gold, diamonds, copper, and hides are the principal exports. It contains many missionary settlements.

Cape Town (25,000), on Table Bay, was founded by the Dutch in 1650. The streets are regularly built, crossing at right angles, and running parallel to each other. It has a good library, a botanical garden, and some good schools. Its trade is considerable.

Simon's Town contains the government arsenal. **Stellenbosch** (5,000), in the midst of villas and gardens, is a Wesleyan establishment. **Beaufort**, **Georgetown**, **Colesberg**, and **Oradock**, are small towns. **Graham's Town** (4,000), about 600 miles E. from Cape Town, is well built, and has improving trade. **Port Elizabeth** (5,000) on Algoa bay has also good trade.

William's Town, on the Buffalo River, is the capital of British Kaffraria. **East London**, at the mouth of the river, is its port.

Natal was discovered by Vasco de Gama, 1497. It lies on the S.E. coast, has an area of 16,150 square miles, a seaboard of 170 miles, and a population of 200,000. Only one good harbour exists—Port Natal. It was colonized by Dutch Boers about 1839. In 1843 it was declared a British colony, which, in 1856, was made independent of the Cape. The coast district, running about 25 miles inland, is level. The productions here are wool, sugar, coffee, arrowroot, ginger, with cereals; more inland, coal,

copper, and iron are also found ; but the interior, which is mountainous, with large forests, is not fully explored.*

Pietermaritzburg (2,000), the capital, is near the centre of the province. D'Urban, the port of the colony, is increasing in importance.

Independent States.

Kaffraria, lying between British Kaffraria and Natal, extends above 100 miles inland. It is inhabited by a brave and warlike, though not a very honest, race, against which the British carried on a long warfare, 1853. The tribes are pastoral, and governed by patriarchs.

Butterworth and Morley are the only towns.

The Orange River Free State lies N.E. from Cape Colony. It is chiefly inhabited by Dutch Boers, who emigrated beyond colonial limits, not appreciating governmental restraints. It is a plateau between the Orange and Vaal rivers.

Bloemfontein (2,000), the capital, has a good wool market.

The Trans-Vaal Republic is N.E. of the above, and slopes to the N. and W. It is a kindred state, founded by Dutch emigrants. The trade is chiefly in ivory.

Potschefstroom is the chief town.

Victoria is a district further N., with *Pella* as its capital.

The Country of the Hottentots runs along the W. coast from the Orange River to Benguela. It is inhabited by various tribes. There are no towns, but many small villages called *Kraals*. Some other tribes dwell between the Orange and Zambezi rivers.

ISLANDS.

The Madeira islands belong to Portugal. The group consists of one large island, with four small ones. The

* The inhabitants are *Zulus*, a race whose custom is never to eat or drink anything without sharing with all their friends.

surface of *Madeira*, the large island, is elevated, rising in Mount *Rico Riivo* to 6,100 feet above sea-level. Several narrow valleys, with vineyards and gardens, lie between the mountain ridges. On account of the great depth of the surrounding sea, fish is scarce, but wild swine and rabbits are numerous in the interior. Sugar and coffee are exported. The population is about 113,000.

Funchal (30,000), on the S. coast, is the only town of importance. It is a coaling station for steam-ships.

Porto Santo, a small island, is about 40 miles N. of *Madeira*. The three *Desertas* are uninhabited.

The *Canary* islands have been described with Spain, to which they belong.

The *Azores* or *Western Isles* consist of nine islands, *St. Michael* being the largest. They export excellent oranges and other fruits, are of volcanic origin, have a moist climate, a diversified surface, and a population of about 25,000. Mount *Pico* rises to 7,600 feet.

Angra, on the island of *Terceira*, is the capital; but *Ponta Delgada* (17,000), on the island of *St. Michael*, is the commercial capital. It exports to Great Britain immense quantities of oranges.

The *Cape Verd* islands belong to Portugal. Ten are inhabited. On *St. Vincent* is *Mindello*, the capital of the group; and on *Santiago*, the largest island, is *Porto Praya*, with an excellent harbour, and exports of cotton, maize, and fruits. The population of this island is about 10,000.

MADAGASCAR.

Madagascar, the sixth largest island in the world, has considerable variety of surface, good bays and harbours, and important productions, consisting of rice, sugar, pepper, cotton, honey, and wax. A mountain range, rising in *Matowla* to 12,000 feet, runs through the centre of the island from N. to S. Cattle, sheep, and swine are numerous; and cotton, iron, gold, and silver are manufactured. The natives are more civilized than those on the African continent,

and now profess Christianity. The population is about $4\frac{1}{2}$ millions, and the area almost twice that of the United Kingdom. This island is 1,000 miles long and 350 broad.

Antananarivo, on a table-land in the centre, is the capital. **Tamatave**, on the E. coast, is the chief port. The French have two settlements, small islands, **St. Mary's**, and **Nossi Bé**, off the E. coast.

Bourbon or **Reunion**, lies 400 miles to the E. of Madagascar. It is mountainous in the interior, some of its volcanic peaks rising to 10,000 feet. It produces coffee, sugar, pepper, and tobacco.

Mauritius or **Isle of France**, with a rugged surface, well wooded and watered, produces large quantities of sugar, coffee, and ebony. The population is about 170,000, of which 10,000 are whites. Though it belongs to England, French is still the language used. .

Rodriguez, a dependency of the above, lies 3 miles further E., and, with similar products, has a population of 250 persons.

Comoro Isles, at the N. entrance to the Mozambique channel, are a volcanic group. They export cocoa-nut oil and tortoise shell.

Zanzibar is famous for spices.

Amirantes and **Seychelles** are two groups, also dependencies of Mauritius. **Port Victoria**, on *Mahé*, the largest of the latter, is the capital.

Socotra, 100 miles E. of Cape Guardafui, has long been famous for its aloes. It belongs to Keshin, a small Arabian state.

St. Helena, the abode of Napoleon I. during his exile, from 1815 to 1821, lies 1,200 miles from the African continent. It is a place of call for vessels on their homeward voyage from Australia for fresh provisions and water. The population is under 7,000.

Jamestown, on St. James's bay, is the capital.

The other African islands are unimportant. Their names have been already given.

AMERICA.

North and South America are united by the isthmus of Panama, in one place only 28 miles across.

North America is 5,200 miles long, from Panama to Boothia peninsula, and 4,350 miles broad, between Cape Charles in Labrador and the extremity of the peninsula of Alaska. There are two archipelagoes—one N., called the *Arctic*, the other S., known under the name of *West Indies*.

NORTH AMERICA.

States.	Area.	Population.	Capitals.
Greenland, - -	400,090	9,481	—
British America, -	3,160,345	4,165,244	Ottawa, on the Ottawa.
United States, -	3,580,149	38,500,000	Washington, on the Potomac
Mexico, - -	753,978	8,287,413	Mexico.
Central America, -	188,344	2,690,635	Belize, etc.
West Indies, -	91,000	3,968,271	Havannah, etc.

Surface.—The stupendous range of the Rocky mountains runs from N. to S., and more westward, and parallel to it, other ranges run in the same direction, but much smaller than the former. Another chain, called the Alleghany mountains, runs near the eastern coast-line. Between the Rocky and Alleghany mountains lies the immense plain of the Mississippi, with a generally southern slope; and N. of this valley, the country, though not mountainous or hilly, is studded with large lakes, extensive forests, and morasses, becoming gradually more inhospitable as we approach the arctic regions. The following are the chief physical divisions :—I. The district lying between the Alleghanies and the Atlantic, drained by many rivers, of no great length : II. The valley of the Mississippi just named. III : The district between the Rocky mountains and the Sierra Nevada, continued in Mexico and Central America

by several table-lands. IV. The valley of the St. Lawrence, including all the territory drained into the great lakes, whose surplus waters reach the Atlantic. V. The Arctic slope, drained by those rivers that flow into the Arctic ocean and Hudson's bay. VI. The N.W. slope, extending from the Rocky mountains to the Pacific and Behring's straits.

Seas, Gulfs, and Bays.—The *Caribbean* sea, including the gulfs *Darien*, *Mosquito*, and *Honduras*; the *Gulf of Mexico*, including the bay of *Campeachy*; on the E. *Chesapeake*, *Delaware*, and *Fundy* bays, and the *Gulf of St. Lawrence*; on the N. *Baffin's*, *Hudson's*, and *James'* bays; on the W. the gulfs of *California*, *Tehuantepec*, and *Panama*.

The **Gulf of Mexico** is separated from the Atlantic by a row of islands and large banks, the former consisting of the Antilles, the latter of the Great and Little Bahama bank. It extends almost 3,000 miles in one direction. The island of Cuba divides the gulf into two parts—that to the S. being now called the *Caribbean Sea*, with a breadth of about 450 miles, extends about 2,000 miles from W. to E., its shores being lined by reefs and small wooded islands called *keys*. The term "Gulf of Mexico" is now restricted to the N. part, which is united to the Atlantic by the Strait of Florida, 120 miles wide. From N. to S. the breadth varies from 550 to 700 miles, with a length from E. to W. of about 1,000 miles. The waters of the Gulf of Mexico are $88\frac{1}{2}^{\circ}$ in mean temperature, while those in the Atlantic, in the same latitude, are only 78° .

The **Gulf of St. Lawrence** is 300 miles long and 250 broad. It has a threefold entrance into the Atlantic, viz.: the Strait of Belle Isle, the Strait of Canso, and the main entrance. This gulf abounds with whales, lobsters, oysters, etc., and is a valuable fishing station. **Hudson's Bay** extends 900 miles from S. W. to N. E., and about 500 from E. to W.

Islands.—In the N.—*Greenland*, *Ellesmere*, *N. Devon*, *Cornwallis*, *Melville*, *Banks' Land*, *N. Somerset*, *Cockburn*, *Cumberland*, etc.; in the Atlantic—*Newfoundland*, *Cape Breton*, *Prince Edward's*, *Anticosti*, the *Bermudas* or *Somers' islands*, and the *West Indies*; in the Pacific—*Vancouver's*, *Queen Charlotte's*, *Prince of Wales*, *Sitka*, *Kodiak*, *Nounivak*, *Aleutian Isles*, and *St. Lawrence* or *Clarke island*.

Peninsulas.—The chief are—*Labrador, Nova Scotia, Florida, Yucatan, Lower California, Aliaska, Boothia, and Melville.*

Isthmuses.—*Panama, Tehuantepec*, between the Gulf of Mexico and the Pacific; and *Chignecto*, connecting Nova Scotia with the continent.

Straits.—On the N.—*Hudson, Davis, Barrow, Victoria, Dease, Penny, Prince of Wales, Banks, Simpson, Franklin*, all in the Arctic archipelago; on the E.—*Belle Isle, Canso, Northumberland, and Florida*; on the W.—*Behring's, Aliaska, Queen Charlotte Sound, Juan de Fuca.*

Channels, Sounds, etc.—*Mona Passage* between Porto Rico and Dominica; *Windward Passage* between the latter and Cuba; *Yucatan Channel* between Cuba and Yucatan; *Fox Channel* N. of Southampton I.; *Smith Sound* N. of Baffin's bay; *Jones and Lancaster Sounds* N. and S. of N. Devon; I. *McClintock Channel* and *Melville Sound*, also in the Arctic archipelago.

Capes.—*Farewell*, S. of Greenland; capes *Walsingham, Chudleigh*, and *Charles* in Labrador; *Race* and *Ray* in Newfoundland; *Sable, Anne, Cod, Malabar, Hatteras, Fear*, on the E. of the United States; *Sable, Antonio, Roxo, and Catoche* in the Gulf of Mexico; *Gracias a Dios*, in the Caribbean Sea; capes *Mala, Blanco, Corrientes, St. Lucas, Concepcion, Mendocino, Blanco*, and *Flattery*, W. of the United States. On the N. W., *Elizabeth, Newhaven, and Prince of Wales*; on the N., *Lisburne, Icy Cape, Barrow, and Bathurst.*

Mountains.—The *Rocky, Sierra Nevada*, and *Alleghanies*, just referred to the *Ozark*, in Texas; *Sierra Blanco*, and *Sierra Madre*, in New Mexico and Mexico; the *Wotchish* mountains, in Labrador; the *Chigmit* mountains, in Alaska.

The **Rocky Mountains**, consisting of a broad belt of parallel chains, extend from about 8° N. latitude in Central America, and end in Alaska territory. The name is, however, often restricted to those parts of the system in the United States and British America. These mountains embrace three distinct belts, nearly parallel to one another:

(i.) On the E., the lofty *Chippewayans*, or Rocky Mountains proper, which culminate in Mount *Hooker* (15,690 ft.), and Mount *Brown* (16,000 ft.), on the E. border of British Columbia, about the 53rd parallel. The elevation gradually declines northward, but even in 62° N. latitude it is 3,500 feet. The highest peaks in the United States are—*Fremont Peak* (13,600 ft.) in Idaho, *Spanish Peak* (11,000 ft.) in the S. of Colorado, and *Pike's Peak* (11,497 ft.) in the centre of Colorado. Except in the S., most of the peaks are covered with perpetual snow. (ii.) A range of high and broken table-lands more to the W. (iii.) A chain, to a certain extent volcanic, still further W.

The *Sierra Nevada* is one of several *coast ranges* near the Pacific. It extends from the centre of Oregon, through California, to about the 35th parallel, where the *Tejon Pass* separates it from its continuation, which runs as far S. as Arizona city, under the name *Bernardino* mountain. The average height of this range is about 6,000 feet.

The *Coast Range* runs from the S. bank of the Columbia river, parallel with and not far from the Pacific, being broken up by gorges, through which many rivers run on their course to the Pacific. This range continues with a lower elevation through the peninsula of California, under the name, *Sierra de la Gigantea*. A third range, running between and parallel to the *Sierra Nevada* and *Coast Ranges*, commences in California, about the 39th parallel, proceeds N. through Oregon (where the highest summits are Mounts *Jefferson* and *Hood*), through Washington, where Mounts *Adams*, *St. Helen's*, and *Baker*, rise above 14,000 feet. This is called the *Cascade Range*, and further N. becomes broken and irregular. It may be traced, however, to Mounts *St. Elias*, and *Fairweather*, in the N.W. In the valley of the *Sacramento* river, between the *Coast* and *Sierra Nevada* ranges, is the great gold region of California.

The *Alleghanies* or *Apalachian* mountains run from the gulf of St. Lawrence to Alabama, about 1,500 miles, but divided by the river *Hudson* into two parts; the one N. of it consisting of detached hills and irregular highlands; the other (about 1,300 miles long), S. of it, has an average breadth from 30 to 150 miles, and an average elevation of 2,500 feet. It consists of many parallel ranges, *Blue Ridge* being the largest, in which Mount *Mitchell*, in S. Carolina, rises to 6,470 feet. The ridges have different names: in Tennessee, the *Cumberland*; in New York, the *Catskill*; in Vermont, the *Green*; in New Hampshire, the *White Mountains*. The second highest peak is Mount *Washington* (6,234 feet), in New Hampshire.

The *Ozark* mountains run from Texas, N.E., to the vicinity

of St. Louis, about 300 miles, with an elevation of under 2,000 feet. They are nearly midway between the Alleghany and Rocky Mountains.

The **Sierra Blanco** runs from the W. of Texas, N., through New Mexico, terminating in Colorado, by a union with the Rocky Mountains.

The **Sierra Madre** is separated from the above range by the Rio Grande, and is connected with the Rocky Mountains in the S. of Wyoming. Another mountain of this name is in the centre of Mexico. The two last-mentioned mountains are continuations of the Rocky Mountains.

Rivers.—Into the Atlantic—the *St. Lawrence, Hudson, Connecticut, Delaware, Susquehanna, Potomac, James, Rap-pahannock, Roanoke, Savannah*, and the *Santee*; into the Gulf of Mexico—the *Mississippi, Trinity, Brazos, Rio-Grande del Norte*, and *Santander*; into the Pacific—*Colorado, Sacramento, Columbia, Fraser, Simpson, Frances*, and *Copper*; into the Arctic Ocean—the *Colville, Mackenzie*, and *Copper-mine*; into Hudson's Bay—the *Churchill, English, Nelson*, and *Severn*; into Behring's strait, the *Kwichpak*.

The St. Lawrence is the next river in importance to the Mississippi, and its length is 760 miles if taken from Lake Ontario, or 2,000 if taken from any of those numerous streams which fall into Lake Superior. Geographers give to it a basin of nearly 1,000,000 square miles, and some put forward the theory that the great lakes, through which it passes, are merely an expansion of itself; but we can scarcely concur in this view when we consider the comparatively small rivers which flow into Lake Superior. In fact, looking at the great body of water comprised in the five lakes, we may consider them as separate from the river entirely, and as a distinct physical feature in the North American continent. The *St. Lawrence*, therefore, may be supposed to begin at Lake Ontario; and the river between this and Quebec could scarcely be surpassed for the beauty and variety of its scenery. In many places it is studded with islands fringed with trees; the country around in some districts rising to a considerable height, and anon sinking with a gradual swell. It receives on its course to Quebec the *Ottawa*, the *St. Maurice*, and the *Saguenay*, all considerable rivers, draining a valuable lumber producing district; this lumber, or timber, is floated down from the interior, and thence by the *St. Lawrence* to Quebec, where it is shipped to the States and Europe. The *St. Lawrence* at Quebec expands into

an estuary, and shortly forms the noble gulf of the same name, which contains the island of Anticosti, and is enclosed by the island of Newfoundland. On its banks are Quebec, Three Rivers, Montreal, Cornwall, Prescott, Ogdensburgh, and Brockville. Between three and four thousand vessels enter it yearly. The chief ports of the St. Laurence are Quebec, whose frowning rocks stand out in bold relief over the river, and remind the traveller of the immortal Wolfe; and Montreal, with very extensive commerce.

The Mississippi, the second largest river in the world, rises in Lake Itasca, in Minnesota. It receives on the west the Missouri, the Arkansas, and the Red River; and on the east, the Illinois, the Ohio, and the Tennessee. After a course of 3,200 miles, it discharges by many mouths into the Gulf of Mexico. The basin of the Mississippi is above 1,200,000 square miles, and is, without exception, the richest district in the world. The river is navigable for about 3,000 miles, and the Missouri almost to the base of the Rocky mountains. Its average breadth is $1\frac{1}{2}$ miles, the depth of its waters in its lower course 150 feet. The Mississippi, after leaving Lake Itasca, traverses a rugged region; rushing between cliffs 1,500 feet high, "a deep and moaning current," it wends its way to the falls, which might be compared to Niagara itself for sublimity and grandeur. After this it pursues its way through the prairies, whose level surface and waving grass are scarcely relieved by a single hill. The rivers which the Mississippi receives are almost innumerable. From every side large rivers and streams contribute their waters and their commerce to swell the wealth and importance of this great basin. The trade of this portion of the American continent is only as yet in its infancy; but when the almost primeval forests of the far-west are cleared, and civilization steps in, this district may become the centre of the wealth, of the manufactures, and of the industries of America.

Unbounded wealth lies undeveloped throughout the entire length of this "father of waters," awaiting but the hand of man to give it vitality and development. Multitudes of steamers at present sail on its broad bosom, and passengers and merchandise find their way quickly to Pittsburg on the one side, and almost to the base of the Rocky mountains on the other. But these are merely the first tiny pulsations of that commerce and trade, which shall yet circulate with a certain and steady throb to the most remote tributary of the whole system. The Mississippi is a sluggish river, and this feature is especially remarkable in its lower course. In the neighbourhood of New Orleans, the surrounding country is, in some places, lower than the surface of the water. Large quantities of mud and trees are carried down by the stream, and deposited in its great alluvial delta: this

district is covered with tropical vegetation, and the intense heat, acting on the damp marshy soil and decayed vegetation, produces fevers and numerous other epidemic disorders. New Orleans is the chief river port, and was until lately noted for its unhealthy and sickly climate. The towns on its banks are—New Orleans, Baton Rouge, Natchez, Vicksburg, Memphis, St. Louis, and St. Paul.

Tributaries of the Mississippi.

The **Missouri** rises in the Rocky mountains in Montana, first flows N., then N.E., then E. into Dakota (on the borders of which it receives the *Yellow Stone*), which it traverses from N.W. to S.E. It forms the boundary between Iowa and Nebraska, and joins the Mississippi a little N. of St. Louis. Going up the river we meet Jefferson city, Nebraska, Omaha, Yankton, and Fort Union. This is a larger river than the Mississippi at their junction; but the latter having been first explored, the name was retained. The Missouri is at least 3,000 miles long.

The **Arkansas** is formed of several streams, which rise in the mountains of Colorado. It flows E., with considerable windings, through Kansas, the Indian Territory, and almost bisects Arkansas, joining the Mississippi at Napoleon. The towns on its banks are Little Rock, Van Buren, and Colorado city near its source.

The **Red River** rises in New Mexico, forms the N. boundary of Texas, passes Paris, Fulton, and Alexandria, and joins the "Great River" midway between Baton Rouge and Natchez.

The **Ohio**, the most important tributary, is formed of two streams, which unite at Pittsburg, where it is 850 feet above sea-level. It has a gentle current, unless in high floods. Near Louisville there are rapids, which are avoided by a canal. In winter its upper waters are frozen. It is about 1,000 miles long, and in time of floods is navigable for the largest vessels up to Pittsburgh. The towns on it are Wheeling, Cincinnati, and Evansville. Its chief tributary is the *Alleghany*.

The **Illinois** flows through the state of the same name, and joins the Mississippi a little before it reaches the Missouri.

The **Tennessee** has a winding and irregular course, and joins the Ohio in the W. of Kentucky.

We shall refer to the other rivers under their respective countries.

Lakes.—The following are the most important lakes :—
Superior, *Huron*, *Erie*, and *Ontario*, between the United States and the Dominion of Canada, *Michigan* in Michigan; *Champlain* and *George* in the N.E. of the United States;

Athabasca, Winnipeg, Great Slave, Lake of the Woods, and Great Bear lakes in British America; *Chapala* in Mexico; *Nicaragua* and *Leon* in Central America; *Itasca* in Minnesota; *Okee-chobee* in Georgia; *Great Salt Lake* in Utah. *Lake St. Clair*, between Michigan and Ontario; *Lake St. John, Temiscaming, Simcoe, and Nipissing*.

TABULAR VIEW OF THE AMERICAN LAKES.

Lakes.	Area in Sq. Miles.	Length and Breadth.	Depth in Feet.	Feet above Sea Level.	Circumference.
Superior,*	40,000	355 by 160	988	627	miles. 1,750
Huron,†	30,000	260 by 160	800	574	1,100
Michigan,‡	20,000	360 by 108	800	580	
Great Slave Lake,§	12,000	300 by 50			
Erie,	10,000	240 by 80	84	555	
Great Bear Lake,	10,000	250 by 240		230	
Winnipeg,	8,000	230 by 20			
Athabasca,	3,500	280 by 50	500	262	
Ontario,¶	6,000	180 by 65	700		
Lake of the Woods,	2,000	70 by 70			
Nicaragua,	2,000	110 by 35		128	
Great Salt Lake,	1,500	70 by 30	8	4,000	
Champlain,	600	109 by 12	700		

GREENLAND OR DANISH AMERICA.

Greenland, owing to the extreme severity of the climate, is still very imperfectly known. It is considered to consist of a cluster of ice-bound islands, inhabited by a short and fat race, who chiefly live on the flesh of seals. In the interior the surface is hilly and bare; cereals cannot be

* The shores are sterile and rigid, but abound in copper ore.

† Its shores are bold and rocky, with very few harbours.

‡ It is surrounded by a fertile country, and has many good harbours.

§ It is in so dreary a region that little is known about it.

|| The land around is rich and alluvial, being admirable for wheat. Railroads and canals afford convenient means of communication with all the large towns.

¶ The rapids of the river from this lake are overcome by a canal.

raised, but skins of seals, reindeer, eider-down, whalebone, and train-oil are exported.

Godhavn, on *Disco* island, is the rendezvous of the whale fishers. A few other Danish stations are along the coasts.

BRITISH AMERICA.

British N. America extends at least 3,000 miles from the Atlantic to the Pacific, and 1,600 miles from N. to S., with an area estimated at 3½ millions of square miles, and a seaboard of 4,300 miles, of which only 1,200 are open during the whole year.

It lies between the meridians of 42° and 75° N. latitude, and between 54° and 141° W. longitude. The 49th parallel forms the boundary, in the W. of the "Great Lakes," between British America and the United States.

British America is famous for its magnificent rivers and lakes, splendid fisheries, rich and varied mineral wealth, fertile soil, and a healthy climate, with admirably developed canal and railway systems.

The physical regions of this immense district may be arranged under—I. The tract beyond the Rocky Mountains. II. The basin drained into the Arctic ocean. III. The basin of the St. Lawrence. IV. Hudson's Bay basin. V. The Arctic archipelago.

BRITISH AMERICA.

Divisions.	Area.	Population.	Capitals.
Dominion of Canada,*	377,040	3,091,066	Ottawa, on the Ottawa.
Prince Edward's Island,	2,173	82,000	Charlottetown.
Newfoundland, - -	40,000	128,638	St. John's.
British Columbia, -	241,000	90,000	Victoria.
Red River Settlement, }	2,720,000	{ 70,000	Fort Garry, on the Assiniboine.
Rupert's Land, - - }		{ 200,000	Fort York, on Nelson River.

* See page 417.

The **Dominion of Canada** was formed by Act of Parliament, in 1867. It extends from the Great Lakes, which separate it from the United States on the S.W. From Lake Ontario, the St. Lawrence is the boundary as far as Cornwall, where the boundary line runs directly E., touching Lake Champlain on the extreme N., and going as far as the Connecticut river, on the confines of Vermont and New Hampshire. A mountain ridge, running N.E., now becomes the boundary as far as the St. Francis river, a tributary of the St. John. Chaleur bay and the river Patapedia separate it in the E. from New Brunswick.

PROVINCES OF THE DOMINION OF CANADA.

Provinces.	Area.	Population.	Capitals.
Ontario, -	121,260	1,620,842	Toronto, on Lake Ontario.
Quebec, -	210,000	1,190,505	Quebec, on the St. Lawrence.
New Brunswick,	27,105	285,777	Fredericton, near the St. John.
Nova Scotia, -	18,671	387,800	Halifax, on S. coast.
Rupert's Land -	2,720,000	270,000	Fort York, on Nelson river.

Total Population in 1871 = 3,754,924.

Canada, perhaps the most important possession of the British crown, divided into two rather unequal parts by the river Ottawa, is, generally speaking, narrow in proportion to its length, lying between the parallels of 45° and 50°, and is about 1,300 miles long, and from 100 to 350 broad. Canada West is nearly a uniform plain, varied by gentle undulations; while Canada East abounds with mountains, forests, rivers, lakes, with a bold and rocky eastern shore. The latter has a long and rigorous winter, extending from the middle of October to the middle of April, and has great extremes of temperature. The inhabitants in winter adopt warmer clothing, of furs, etc., drive in light carriages or sleighs drawn by one horse, visit their friends, and indulge in out-door amusements. In this season also the trees are

hewn in the lumber districts, and floated down the rivers, on the approach of spring, to the St. Lawrence, whence much of the timber is shipped to Great Britain, and other countries. Wood is used everywhere for fuel, and even for the steam-boats on the lakes and rivers. Canada West, with a climate less excessive and a shorter winter, produces abundant crops of wheat, oats, maize, barley, potatoes, tobacco, flax, and hemp. The peninsula between Lake Huron and Erie is particularly productive of wheat. Here also rich wells of petroleum have been lately discovered. Canada East, or Quebec, has also an important trade in furs. The isle of *Anticosti* belongs to the province.

Ottawa (16,000) is a well-built city, with beautiful public buildings. Selected as the capital, in a kind of neutral position, and far from the United States border, it is central and appropriate. It is a great centre of the lumber trade, the timber coming down the river in great quantities, whence it is forwarded to Quebec. It has a large number of saw mills.

Quebec (60,000), on a promontory overlooking the St. Lawrence, called Cape Diamond, is still a busy shipping port. It has a university, two cathedrals, and numerous public institutions of great merit. Its climate is cold. Since the introduction of iron ships, the building of wooden vessels has almost ceased. It was taken from the French, 1759, and the province ceded, 1763. **Toronto** (50,000), on a gently rising elevation, on a sheltered but capacious bay, presents an imposing appearance. It is the great emporium of the Canadian grain trade, of which it exports immense quantities. **Kingston** (15,000), on lake Ontario, is, next to Quebec, the strongest town in Canada. Two islands lie three miles distant in the lake. It is now an important manufacturing town. **Hamilton** (23,000), on the same lake, is a place of great commercial importance, as well as the seat of extensive manufactures. **Belville** (10,000) has iron works and marble quarries in the neighbourhood. **Coburg** (9,000), on Lake Ontario, has a good harbour. **Port Hope** (4,000), and **Oshawa** (2,500), are important stations on the Grand Trunk Railway. **Brantford** (9,000) is a town with transit trade. **London** (20,000), on the Thames, has wide and regular streets, and handsome public buildings. **Chatham** (9,000) is an important railway station. **Woodstock** (4,500), in the midst of a cattle-rearing and wheat-growing district, has good

schools, hotels, etc. **Niagara*** (2,000) is a small town with great transit trade between Canada and New York, etc. **Brockville** (4,000), on the St. Lawrence, and **Guelph** (5,000), inland, are stations on the Grand Trunk Railway. **Three Rivers** (7,000), midway between Quebec and Montreal, on the St. Lawrence, is built of wood. It has an extensive timber trade.

Montreal (90,000), the largest and most commercial town in Canada, is on an island in the St. Lawrence, which is here spanned by the *Victoria* railway bridge, two miles long, with 24 spans of 242 feet each, and one in the centre 330 feet. The Grand Trunk Railway passes over it. It has an Anglican and a Catholic cathedral. It has splendid docks, and great export trade.

Among the less known towns, with at least 3,000 population, may be mentioned : *Bagot, St. Paul's Bay, Brome, Cape Santé, Compton, Dundas, Edwardsburg, Egremont, Fitzroy, Gloucester, Lancaster, L'Islet, Madoc, Matilda, New Glasgow, St. John's, St. Joseph, St. Maurice, St. Thomas, Shefford, Sherbrooke, Sorel, Stanstead, Westminster, and Windsor.*

New Brunswick† lies on the Gulf of St. Lawrence, between Canada on the N., Nova Scotia on the S., and the United States on the W. It is, in many places, densely covered with plantations of lofty pine trees. It has important fisheries, coal is abundant, and antimony, copper, and lead are found. Cereals and green crops are extensively cultivated. The climate is hardly so extreme as that of Canada.

Frederickton (7,000), the capital, has but little trade.

St. John's (20,000) is the commercial capital of the province. It is frequently wrapped in a dense fog.

Woodstock (5,000), on the St. John, has lumber trade.

* The Niagara river is only 30 miles long, extending from L. Erie to L. Ontario; and the Falls are within a few miles of the latter lake. Two miles above the Falls the grandest rapids in the world occur. There are three Falls—the *Horse Shoe*, or *Canadian Fall*, 2,000 feet wide, and 154 feet high; the *American Fall*, 660 feet wide, and 165 feet high, and the *Central Fall*, 243 feet wide, and 165 feet high. Goat Island is between the first and second, and a rock between the second and third. Three miles below the Fall is the whirlpool, caused by an abrupt turn in the river. Two miles below the Fall is the International Suspension Bridge, affording a pedestrian, carriage, and railway thoroughfare.

† Its inhabitants include the descendants of the French, to whom it belonged until 1763, the descendants of the Royalists who left the United States after the peace of 1783, British settlers, and a few Indians.

Nova Scotia,* discovered by Cabot, in 1497, was first colonized by the French, from whom it was taken by the English in 1627, but restored in 1632. At the peace of Utrecht (1713) it was ceded to England. One-fourth of the inhabitants is engaged in agriculture, and the forests are important. Coal and iron are plentiful, and gold has been found. Codfish are found off the E. coast all the year round; mackerel are in great numbers, and salmon still more plentiful in the rivers. The climate is agreeable and healthy.

Cape Breton, separated from Nova Scotia by the Gut of Canso, is now politically united with it.

Halifax (30,000), with one of the finest harbours in the world, is an important naval station. This is the nearest harbour to the British Isles, being only 1,800 miles from Galway. It is a great fish market, and lobsters are so plentiful that their price is only a penny each.

Louisburg, the capital of Cape Breton, is almost in ruins.

Rupert's Land,† lately incorporated with the Dominion of Canada, and formerly known as Hudson's Bay Territory, consists of an immense tract W. of Canada, N. of the United States (from which it is separated by the 49th parallel), and E. of British Columbia. It includes most of the Arctic regions which we have already named. The surface is marshy and flat, interspersed with large lakes; and the rivers seem to hesitate in what direction to flow. It is chiefly a fur-producing district, the climate being too severe for colonization.

The **Red River Settlement**, with a less rigorous climate, lies 50 miles N. of Minnesota. It is in the very centre of North America, 2,000 miles W. of Montreal, and 600 miles from Hudson's Bay, a sheet of water only open for commerce one or two months in the year. The popula-

* The inhabitants are of very different origin, but now much intermixed. They consist of descendants of French, Americans, English, Scotch, Irish, Germans, and Swiss, with a few Negroes and Indians, all tolerant, hospitable, and enterprising.

† The Hudson's Bay Company was formed in 1670 "under the auspices of Prince Rupert" (to whose memory this district is now named), for the purpose of trade in furs, fish, etc., chiefly got from the Indians, at the fairs, in barter.

tion consists of Canadian, French, and Highland settlers, the latter chiefly from Sutherland. The resources of this country consist of iron, gold, and coal, with a climate, though consisting of eight months in the year of frost, suited for the production of cereals. A rebellion broke out here in 1869, but was soon quelled.

Pembina, near the United States border, is the chief town, though Fort Garry is the head-quarters of the district.

York Fort, on Hudson's Bay, is the chief station in Rupert's Land.

PRINCE EDWARD'S ISLAND.*

Prince Edward's Island is a crest-shaped tract in the south part of the Gulf of St. Lawrence, greatly indented on its shores. The soil is fertile, the climate rather mild, surface undulating, and produce varied. Oats is the principal grain crop; horses are largely exported; and agriculture is the chief industry. It is free from the fogs of Newfoundland; and more than one-half of its inhabitants are of Scotch descent: area 2,170 square miles.

Charlotte Town (4,000), not far from the S. coast, is the only town in the island.

NEWFOUNDLAND.

Newfoundland, a large island on the N.E. side of the Gulf of St. Lawrence, was long the scene of rivalry between the French and English fishermen, until it was ceded to England in 1713. It is computed that one-third of the surface consists of lakes, swamps, and pools, but its fisheries are valuable. It is noted for "fogs, dogs, and fish." The French have two fishing stations, *St. Pierre* and *Miquelon*.

St. John's (25,000) is a town of much commercial importance, with a good harbour.

Labrador is now a dependency of the above. Its climate is very severe, but its fisheries are valuable, particu-

* So named from the father of Queen Victoria, Edward, Duke of Kent, who was for some time commander-in-chief in British America.

larly that of seals. Cod and salmon are also caught. The bays are only open from June to September, and few people remain here during the winter.

Nain Fort, the capital, has an annual temperature of 7° below zero.

BRITISH COLUMBIA.

British Columbia* lies beyond the Rocky mountains. It includes Vancouver's, Queen Charlotte's, and the other adjacent isles, with which it was incorporated, 1866. This district extends from 49° to 55° N. latitude, and from 115° to 132° E. longitude. This colony was formed in 1858, and obtained a regular legislative council in 1863. Gold, timber, and good coal are the chief natural productions. The soil is admirably adapted for cereals. The fur trade is also an important industry.

Vancouver's Island, with an area of 13,000 square miles, mostly mountain and barren rock, but densely wooded. Gold, coal, and cereals, are the chief productions. Fish and fowl are abundant. The climate resembles that of the British Isles.

In British Columbia the Rocky mountains are very irregular, but the passes are more accessible than further S. *Yellow Head Pass*, at the head of the Fraser river, is 3,703 feet; *Vermilion*, 4,944 feet, and *Kanaskis*, 5,980 feet above sea-level.

Victoria (5,000), on the Gulf of Georgia, on Vancouver's Isle, is the capital of the colony.

New Westminster, on the Fraser River, is a small town. **Cariboo** is the chief seat of the gold-diggings.

Fort George, on the Fraser, is the nearest town to the diggings.

Mountains.—The **La Cloche** mountain runs from the E. end of Lake Huron N. It is more a table-land than a mountain. Some hills are in New Brunswick, and the **Wotchish** mountains run through Quebec.

Rivers.—The **St. Lawrence** has already been described. Its most important tributaries are the *Ottawa*, 800 miles long, the *St. Maurice*,

* It is about to be incorporated with the Dominion of Canada.

500, and the *Saguenay*, 400 miles long. These three rivers water the best lumber district in the world.

The *Mackenzie* rises on the E. side of the Rocky mountains, and, is first called *Peace* river, then *Slave* river. It passes through Great Slave Lake, and now under the name *Mackenzie* enters the Arctic ocean: with its tributary, the *Athabasca*, it is nearly 2,000 miles long.

The *Saskachen* is formed of several streams from the Rocky mountains in the S.W. of Rupert's Land. It enters lake Winnipeg, and under the name *Nelson* enters Hudson's Bay. Its whole course is 1,600 miles.

The *Assiniboine* runs E. through the Red River settlement, is joined by the *Red River* from the United States at Fort Garry, and enters lake Winnipeg.

The other rivers are:—Into Hudson's Bay—the *Great* and *Little Whale*, *Main*, *Rupert*, *Moose*, *Albany*, *Severn*, and *Churchill* or *English*; into the Arctic Ocean—the *Great Fish*, and *Coppermine*; the *Thames* into lake St. Clair; in British Columbia—the *Fraser* (flowing into Vancouver's Sound), the *Simpson* and *Stekin*, further north.

Lakes.—The lakes may be divided into three classes:—(i.) those drained into the Arctic ocean—*Great Bear*, *Great Slave*, *Athabasca*, *Wallaston*, and *Deer* lakes; (ii.) those drained into Hudson's Bay—*Winnipeg*, *Winnipegosis*, and *Manitoba*; (iii.) those drained by the St. Lawrence—*Lake of the Woods*, *Superior*, *Michigan*, *Huron*, *Erie*, and *Ontario*. See pp. 55 and 415.

Education.—There is an admirable educational system in Canada. The schools, which are numerous, are chiefly supported by local taxation, and placed under government inspection. In free libraries, literary clubs, lecture halls, and mechanics' institutes, Ontario is far in advance of the United Kingdom of Great Britain and Ireland. The inhabitants of Lower Canada (or Quebec) are of French origin, and the French language is still used. Those of Upper Canada are mostly from the British Isles.

Railways.—The *Grand Trunk* runs from Montreal to Port Sarnia; the "Great Western of Canada" connects Niagara with Windsor, both towns on the American frontier—one N. the other S. of lake St. Clair.

UNITED STATES.*

The United States extend from British America in the N., to the Gulf of Mexico on the S., and from the Atlantic on the E, to the Pacific on the W. The most northern point is Barrow Head, the most eastern projects into the Bay of Fundy; most southern, Cape Sable, in Florida, and most western, Mendocino. The average length from E. to W., is about 2,500 miles, and from N. to S. 1,300.

The *surface* of the United States consists of the Atlantic highlands, and most of the Pacific highlands, with their slopes and lowlands. A sufficient description of these has already been given. This is a country of immense industrial resources, boundless national wealth, spirited, enterprising, and ingenious inhabitants.

SIX NORTH-EASTERN STATES.—NEW ENGLAND.

States.	Area.	Population	Capitals.
1 Maine, - -	32,628	626,463	Augusta, on the Kennebee.
2 New Hampshire,	9,411	318,300	Concord, on the Merrimac.
3 Vermont, - -	10,212	330,552	Montpelier.
4 Massachusetts, -	7,500	1,457,351	Boston, on Massachusetts B.
5 Rhode Island, -	1,340	217,356	{ Providence, on the Provi- dence.
6 Connecticut,	4,761	537,418	{ Newport, on the Atlantic. { Hartford, on Connecticut. { New Haven.

MIDDLE STATES.

7 New York, -	46,085	4,364,411	Albany, on the Hudson.
8 New Jersey, -	8,320	905,794	Trenton, on the Delaware.
9 Pennsylvania, -	44,000	3,515,993	Harrisburg, on the Susque- hanna.
10 Delaware, - -	2,120	125,015	Dover, on Delaware bay.
11 Maryland, - -	13,950	780,806	Annapolis, on the Severn.

* These consisted originally of thirteen states, which achieved their independence in 1783. The essence of the constitution consists in its giving power to each state to legislate for itself, subject to the imperial legislature, consisting of a president, senate, and representatives. The territories are governed directly by the imperial government.

EASTERN STATES.

States.	Area.	Population.	Capitals.
12 Virginia, -	64,000	1,670,446	Richmond, on the James.
13 North Carolina, -	48,000	1,069,614	Raleigh, on the Neuse.
14 South Carolina, -	28,000	728,00	Columbia, on the Santee.
15 Georgia, -	62,000	1,200,609	Milledgeville, on the Oconee.
16 Florida, -	45,000	187,756	Tallahassee.

SOUTHERN STATES.

17 Alabama, -	46,000	996,961	Montgomery, on the Alabama.
18 Mississippi, -	45,760	834,170	Jackson, on the Pearl.
19 Louisiana, -	48,220	732,731	Baton Rouge, on the Mississippi.
20 Texas, -	274,000	797,500	Austin, on the Colorado.
21 Arkansas, -	52,000	483,179	Little Rock, on the Arkansas.
22 Tennessee, -	40,000	1,257,983	Nashville, on the Cumberland.
23 Kentucky, -	42,000	1,321,001	Frankfort, on the Kentucky.

NORTH-WESTERN STATES.

24 Ohio, -	39,128	2,659,214	Columbus, on the Scioto.
25 Michigan, -	60,000	1,184,296	Lansing, on the Grand river.
26 Indiana, -	37,000	1,673,046	Indianapolis, on the White river.
27 Illinois, -	52,000	2,539,633	Springfield, near the Illinois.
28 Wisconsin, -	54,000	1,055,167	Madison, near the Wisconsin.

WESTERN STATES.

29 Missouri, -	63,000	1,715,000	Jefferson city, on the Missouri.
30 Iowa, -	50,000	1,191,802	Des Moines, on the Des Moines.
31 California, -	189,000	560,285	Sacramento.
32 Oregon, -	100,000	93,922	Salem, on the Willamette.
33 Minnesota, -	60,000	435,511	St. Paul's, on the Mississippi.
34 Kansas, -	80,000	362,872	Topeka, on the Kansas.
35 Nebraska, -	120,000	123,000	Omaha, on the Missouri.
36 Nevada, -	126,000	42,491	Carson city, on the Carson.

TERRITORIES.

States.	Area.	Population.	Capitals.
1 Washington, -	61,000	23,901	Olympia, on the Puget.
2 Dacota, -	152,000	14,181	Mandan.
3 Idaho, -	69,000	14,998	Boise.
4 Montana, -	143,000	20,594	Virginia, on the Madison.
5 Colorado, -	106,000	39,706	Denver.
6 Utah, -	106,000	36,786	Salt Lake city, on the Jordan.
7 Arizona, -	95,000	9,658	Prescott.
8 New Mexico, -	101,000	91,852	Santa Fé.
9 Wyoming, -	89,600	9,118	—
10 Alaska, -	577,000	75,000	Sitka.
11 Indian Territory	—	—	Fort Washita.
12 Columbia,* -	60	131,080	Washington, on the Potomac.

Different arrangements have been made in the classification of the States; and the terms "Atlantic States," "Gulf States," "Pacific States," etc., are in common use.

Maine borders on New Brunswick, from which it is separated by the rivers St. Croix and St. John. It also borders on Canada. It has a hilly surface, is extensively wooded in the N. by fir, pine, and beech trees. It is watered by the Penobscot and the Kennebec. It combines commercial, manufacturing, and agricultural industries together with fisheries.

Augusta (9,000) stands on the Penobscot. It has an arsenal. **Bangor** (18,289), a great lumber depôt, is on the Penobscot. **Portland** (31,413), the largest town in the state, has a fine harbour and active trade, particularly in winter, when it is used as a harbour for Canada. **Bath** (8,000) has extensive ship-building. **Lewiston** (13,600) is of modern growth.

New Hampshire has only 18 miles of a coast-line, is low towards the Atlantic shore, but gradually rises towards the interior, where the *White* mountains, well known for their sublime scenery, reach an elevation of 4,000 feet.

* Not strictly speaking, a territory—called "District."

Concord (12,241), a great railway centre, is on the Merrimac, and though the capital, is inferior to **Portsmouth** (11,000), which is an active port and an important naval station. **Nashua** (10,343) is rising into note. **Dover** (8,000) is the seat of ship-building and important manufactures. *Hanover* has Dartmouth college. **Manchester** (23,536) is an important manufacturing town.

Vermont seems to have derived its name from the "Green mountains," and the verdant cedar and pine forests which cover a good deal of its surface. It has good marble and slate quarries.

Montpelier, the capital, is a small town. **Burlington** (9,000), nicely situated on Lake Champlain, is a more important town.

Massachusetts—noted for its manufactures of textile fabrics, fisheries, extensive commerce, and literature—though naturally sterile, is now, from the great industry of the inhabitants, exceedingly productive. It is drained by the Merrimac and the Connecticut. Nearly one-third of all the cotton and woollen goods of the Union is produced here, and its fisheries are as important as those of all the other States.

Boston (250,526), connected with the interior by river, rail, and canal, ranks as the first city of the United States in literature, and the second in commerce. It stands on a promontory, jutting out into the bay, and is the centre of trade in ice, which is obtained from *Wenham lake*, in its vicinity, and shipped to London and all parts of the world. Printing and publishing are extensively carried on here as well as in every large town in the Union. It is the birth-place of Dr. Benjamin Franklin; and here the insurrection broke out, 1775. This city has the largest organ in the United States. Its harbour is safe and deep. Near is *Bunker's Hill*, where the royalists defeated the Americans, 1775. **Cambridge** (40,000), four miles from Boston, has the Harvard university, founded 1638. **Lynn** (28,233), a little more north, is the greatest town in the world for ladies' boots and shoes, of which five millions are made every year. **Lowell** (41,000), is a rising town, with so much cotton-making that it is called the "Manchester of America." It has also linen, carpets, and woollen factories. **New Bedford** (21,000) is the head-quarters of the American whale fishery. **Lawrence** (30,000) is a few miles from Lowell. Here is the largest cotton and woollen mill in the world. It covers 16 acres. **Worcester** (41,000) is a very handsome town, with important railway

traffic. **Springfield** (27,000) has a cannon foundry and cotton factories. **Northampton** has silk manufactures. **Plymouth** (6,000) contains *Pilgrims' Hall*, which commemorates the landing of the Pilgrim fathers, 1620. **Fall River** (27,000) has active shipping trade; and **Taunton** (10,000) has hardware trade.

Rhode Island,* the smallest state in the Union, is a very good manufacturing district, with fine dairies and fruit gardens.

Providence (69,000) has extensive commerce and numerous manufactures. **Newport** (12,000) is a favourite watering place.

Connecticut, divided almost equally by a river of the same name, is famed for the variety of its manufactures.

Hartford (37,180), in the interior, on the Connecticut river, and **Newhaven** (50,000), a more important town, are used as the capital alternately. The latter has been called the "city of elms," and contains Yale College, with a splendid library. It is a good manufacturing town. **Norwich** (16,500) and **Bridgeport** (18,000) are modern towns.

New York, the most important, most populous, and most industrial state of the Union, lies S. of Canada and N. of Pennsylvania; besides including Long Island: it is washed by lakes Ontario, Erie, and Champlain. It is watered by the Hudson, the scenery of which is strikingly grand. This state has every variety of industry. *Mount Marcy*, which has the mineral springs of *Saratoga* and *Ballston* at its base, rises to 5,300 feet. The climate, though healthy, is severe in the N., but mild in the S.

Albany (70,000), the state capital, on the Hudson, has a university and a military academy.

New York† (942,292), called the "Empire City," stands at the mouth of the Hudson river, on Manhattan island; has a splendid harbour, enclosed by Staten and Long islands; spacious streets, magnificent public buildings, and extensive commerce. No city could be better situated both for foreign commerce and inland trade.

* Derives its name from a small island near the shore.

† By the Dutch, to whom it formerly belonged, it was called New Amsterdam; but having been taken by the English, it was called New York after the Duke of York.

It is the great centre of American political, social, monetary, and commercial life. The houses are generally built of brick ; its streets are handsome, and lined with exquisite shops and hotels. One street, *Broadway*, with a width of 80 feet, extends N.E. for four miles. Among the public buildings are the City Hall, Custom House, of white marble, the Hospital, Exchange, Arsenal, and Crystal Palace. Its industry consists of extensive commerce with all the chief ports in the world, manufactures of steam machinery, ship-building, etc., In this city every one rises early, and works hard.

Brooklyn (396,000) which may be considered a suburb of New York, stands on Long Island, and is the principal naval station for the United States. It has a white marble City Hall. Troy (46,465), has manufactures of hardware and machinery ; and an iron foundry. Buffalo (118,000), near Lake Erie, is the chief *entrepot* between the western states and the Atlantic ; has a ship-yard, iron foundries, etc. It is 170 miles from New York, at the most E. point of L. Erie and the terminus of the Erie canal. Next to New York, it is the most commercial town in the State. The town has huge granaries where the corn for the European market is stored, on being brought from the vessels of the lakes to the canal barges, to be towed by the Hudson river to New York. The distance from Buffalo to Chicago, by rail, is 538 miles. Rochester, with flour-mills, is on the S. of L. Ontario. It has a university. Syracuse (43,000), is a railway centre in the W. of the state, with great commercial activity, particularly in salt manufacture from its brine-springs. Utica (28,804) is an important town near the centre of the state. Oswego (20,910), on the E. of L. Ontario, is an active port, connected with Syracuse by rail. Poughkeepsie (20,000) is 75 miles N. from New York. Auburn (17,225), on the railway W. of Syracuse, has improving trade, a Presbyterian College and carpet making. Elmira (15,863) is a town of very recent date ; and of Cohoes (15,357), the same may be said. Plattsburg (8,000) is a port on Lake Champlain. Binghampton (12,692) is a railway centre in the S. of the state. Geneva (7,000) is a handsome town. Schenectady (11,026) is a modern town on the Erie canal. Hudson (8,000), on the river of the same name, is a place of transit trade. Rome (11,000) is N.E. of Syracuse, on the railway. Ogdensburgh (10,076) is on the St. Lawrence, and has trade by the river. Saratoga is a fashionable watering-place. Here General Burgoyne surrendered to the Americans, 1777.

New Jersey, forming the west bank of the Hudson, near its mouth, has many fine watering-places on the coast. The surface is generally flat, with a few hills in the N.

Trenton (9,000) was the scene of one of Washington's victories over the British, 1776.

Newark (105,000), a much larger town, is the commercial capital. **Atlantic City**, on the coast, is much resorted to for sea-bathing.* **Princeton** has a college. **Jersey City** (82,546) is nearly opposite **Brooklyn**, and partakes of the enterprise and activity of New York. **Burlington** (6,000) is a neat town on the Delaware. **Paterson** (33,600) is a good town, with manufactures of cotton, machinery, and paper. **Elizabeth** (20,833) is of modern growth. **New Brunswick** (12,000) is much engaged in trade by the canals. **Hoboken** (20,297) is an important town. **Camden** is opposite **Philadelphia**, of which it is really a suburb.

Pennsylvania† is an exceedingly beautiful and fruitful province, S.W. of New York; touches Lake Erie towards the N.W., and the mouth of the Delaware on the S.E.; has a mountainous surface, the Alleghanies traversing it in a broad band. It is very rich in minerals. The E., however, watered by the Susquehanna and the tributaries of the Delaware, is flat and uninteresting. In other places the landscape is beautiful. Its coal fields are, perhaps, the most extensive in the world, and its iron mines rank next to those of England.

Philadelphia (674,000), until A.D. 1800 the capital of the Union, stands near the Delaware, is handsomely built and beautifully laid out with broad streets; has a statue of Penn, its founder; and still retains the mint of the Republic. It is next to New York in population. It was entered by the British after the battle of Princeton, 1777.

Harrisburg (23,104), the state capital, is on the Susquehanna, at an important railway centre. **Pittsburg** (86,000), called the "Birmingham" of America, stands at the junction of the Alleghany with the Ohio. Here the machinery for the Mississippi steamers is principally made. **Alleghany** (53,180), a little N.W. of Pittsburg, is one of the most improving towns in the state. **Scranton** (35,092) is a town with active trade. **Reading** (33,930) is an important railway centre. **Williamsport** (16,030), on the Susquehanna, is a flourishing town. **Lancaster** (21,295), **Erie** (19,646), and **Altoona** (10,690), are modern and fast-improving towns.

* Here is the well-known Mount Vernon hotel, with 3,500 sleeping rooms.

† Oil-wells are numerous and valuable in this state.

Delaware, the second smallest state, extends in a narrow strip along Delaware Bay. It is best known as a grain and fruit-growing state.

Dover (5,000), the capital, is a small town.

Wilmington (31,000) is a very important and substantially built town at the confluence of the Brandy-wine and Christiana creek. Its manufactures include woollens, cottons, steam engines, and mill machinery. Here a battle was fought, in 1777, between Washington and Lord Howe.

Maryland,* with a very irregular shape, curves round Chesapeake Bay; and is separated from Virginia by the Potomac. It is rich in minerals, and produces much tobacco.

Annapolis,† the capital, is an unimportant place.

Baltimore (267,254), the fourth city of the Union, a great flour mart, is the great port for the shipment of tobacco. It is handsomely built on the Patapsco, fourteen miles from Chesapeake bay. It contains a statue of Washington, and an obelisk to commemorate the unsuccessful attack of the British on the city, 1814, on which the names of the defenders who fell are inscribed in letters of gold. **Frederick City** (7,000) is about 60 miles N. W. from Annapolis.

Virginia‡ is low towards the coast, and much broken by inlets; but it is in many places marshy, and unhealthy in summer. Towards the W. the surface is more elevated, well-wooded, and rich in minerals, particularly in iron and coal. This is the best state in the Union for tobacco cultivation; and its oyster fisheries are important and valuable. The *Potomac*, which receives the Shenandoah at Harper's Ferry, a spot well-known in the recent lamentable civil war, flows chiefly along the northern border of the state. The *Rappahannock*, the *York*, and the *James*, also water this state. Maize, wheat, and tobacco, and, to a less ex-

* So named in honour of Queen Henrietta Maria.

† So named in honour of Queen Anne, in whose reign it became the capital.

‡ The oldest state in the Union. It was given to Sir Walter Raleigh by Queen Elizabeth, in whose honour the state was named. At the time of the civil war, Western Virginia, capital Wheeling, went for the N., and Eastern Virginia for the S. They have not as yet been amalgamated, and, consequently, are by some considered as distinct states, and described accordingly.

tent, corn and flax, are the chief products. Oyster-beds along the coast extend over a million of acres.

Richmond (51,038) on the James, about 100 miles from its mouth, has fine public buildings. It suffered very severely in the late civil war, being the Confederate capital. It was taken after a three years' siege by General Grant, 1865.

Norfolk (19,229), a naval station, is near the mouth of the James. It was severely injured in the war. **Portsmouth** (10,492) has a good harbour, a navy-yard, and a military academy. **Fredericksburg**, half-way between Richmond and Washington, was the scene of severe fighting. **Petersburg** (18,950) was the scene of an attack, and dreadful repulse of the Northerners. **Wheeling** (19,280), the capital of western Virginia, stands on the Ohio, and has much trade. **Harper's Ferry**, on the Potomac, amidst the finest scenery in all America, is 50 miles above Washington: often crossed and recrossed by the combatants in the late war. **Alexandria** (13,570), a watering-place, is the seat of flour, maize, and tobacco trade. **Georgetown** (11,384) is in the neighbourhood of Washington, and partly in the district of Columbia.

North Carolina, lying S. of Virginia, with a low swampy plain 60 miles broad on the Atlantic coast, and the Blue Ridge mountains, which attain an elevation of 5,500 feet, on the west, is a productive State, cotton, rice, and indigo being raised in the E., (an unhealthy district,) and wheat, maize, and tobacco in the W., or elevated region, a salubrious district. Though many rivers run into the Atlantic, yet no good harbours are found, bars and sandbanks rendering navigation along the coast dangerous. **Mitchell's Peak** rises above 6,000 feet. Some gold and iron are found.

Raleigh (6,000) is a thriving town, not far from the river Neuse. It has a fine state-house of granite.

Fayetteville (6,000), on Cape Fear river, is a busy town, with an armoury. **Beaufort**, with a good harbour, is the only port on the coast. **Wilmington** (13,446), standing 40 miles up Cape Fear river, with powder-mills, is the most commercial town in the state, and was actively engaged in blockade-running during the recent war. **Newbern** (5,000), on the Neuse, has increasing commerce, and a pleasant situation.

South Carolina, a little smaller than Ireland, has physical features resembling N. Carolina, but better har-

bours : the sea-coast is bordered with islands. The flat or eastern district is 80 miles broad, and greatly covered with forests ; further inland is the sandhill region, 60 miles in width ; and still further inland the highland district, with a fine belt of table-land, a precipitous descent on the E., and a gradual acclivity to the mountains on the W. Table Mountain rises 4,000 feet above sea-level. Cotton* and rice form the staple productions, both being largely exported to England. The principal rivers are the *Santee*, *Cooper*, *Ashley*, and the *Savannah*, which forms the southern boundary.

Columbia (9,000), the capital, has wide streets, and many handsome public buildings.

Charleston (48,956), the most commercial town of the E. States, south of the Potomac, stands on a tongue of land between the rivers *Ashley* and *Cooper*, is well-built, and much healthier than the surrounding country, but was greatly injured in the recent war.

Georgia,† just as large as England and Wales, and producing abundance of rice, and the best cotton, indigo, and tobacco, is exceedingly swampy, containing numbers of alligators and snakes. Its coast for four or five miles inland is a salt marsh ; a chain of islands which yield the best cotton, border it ; its surface gradually rises towards the W., until the Blue Ridge mountains attain an elevation of 1,500 feet, beyond which a very fertile country, of diversified surface, exists. Gold, copper, and iron have been found, but cotton and rice form the staple products.

Milledgeville (5,000) is in a rich cotton-growing country. *Oconee* is a small thriving town, and *Athens* is the seat of the state university. **Savannah** (28,235), advantageously situated for commerce on the river of the same name, stands on a bank 50 feet above the water ; has spacious and regular streets, handsome public buildings in the midst of groves of trees ; and, since the draining of the contiguous

* American cotton is of two kinds—the *Upland*, and the *Long Staple*, or *Sea Island* ; the latter, of a yellowish tinge, long and silky, is of a very superior quality, and is largely produced in the islands which fringe the shore of this state.

† Forests abound in this state, as well as in the Carolinas, which not only yield timber, but pitch, tar, and turpentine.

swamps, is decidedly a healthy city. Most of the commerce of the state passes through it. This town was captured by Sherman, 1865. **Augusta** (15,389), also on the Savannah, at the head of its steamboat navigation, is the great commercial emporium of the interior, and is connected with *Hamburg* on the opposite side of the river by a bridge. **Macon** (10,810) had only a cabin in 1822, but now, on account of its extensive and increasing cotton trade, is an important town. **Columbus** stands on the Chattahoochee, 430 miles from the sea; is a modern town, largely engaged in exporting cotton. It has manufactures of agricultural implements. **Atlanta** (21,789) was burnt by Sherman in the late war. It is an important railway centre. **Darien**, also an improving town, has trade in lumber and cotton; and *St. Mary's*, with a deep and commodious harbour, is on the river of this name.

Florida,* a long peninsula, separated from Georgia by the river St. Mary, is almost as large as England and Wales, with, generally speaking, a level surface, intersected by numerous ponds, lakes, and rivers, and terminating in sharp rocks, in Cape Sable, beyond a marshy district. Timber is a valuable product of this state; sugar and rice are largely raised, and vast herds of cattle are reared. The climate, during the three hottest months, is extremely unhealthy. Oranges, dates, and figs flourish.

Tallahassee, containing the state senate house, and many splendid public buildings, is the capital of the state.

Key-West, a naval station on Thompson's Island, has a good harbour. It commands the entrance to the Gulf of Mexico. **St. Augustine**, the oldest town in the States, has some buildings in the Spanish style; it is surrounded by orange groves. **Jacksonville**, on the St. John's, is a flourishing commercial depôt. **Pensacola**, an important naval station, is on a bay of same name.

Alabama lies further W.; has a low southern district 50 miles wide, covered with pine trees, cypress, etc.; is hilly in the centre, and somewhat mountainous in the

* This name formerly included a much larger territory, extending as far W. as the Mississippi. The "Florida Keys," a range of islands on the south and south-east coast, between which and the mainland runs a navigable channel, are said to have been formed by the Gulf Stream, which here sends currents towards the shore, called "eddies," a great obstruction to navigation.

north—the great Alleghany chain terminating in the N.E.; extensive forests abound; fertile valleys border the rivers, and extensive prairies, clothed with herbage, but without timber, are also found in this state. Rice and sugar are largely produced near the gulf; marble, coal, and iron are found in the centre, and gold in the north.

Montgomery (10,588), on the Alabama, exports cotton.

Mobile (32,034), the dōpot for this state, and part of Georgia and Mississippi, stands on a dry and elevated spot, has a good harbour and is largely engaged in the export of cotton. Here the northern fleet was defeated in 1864.

Wetumpka* (8,000) has important mineral waters. Tuscaloosa, in the centre of the state, is a great resort of steamboats; has a university, and some good public buildings. Florence, on the Tennessee, is a thriving place.

Mississippi,† lying to the E. of the river of the same name, is, in the S., for 100 miles inland, a champaign country, covered with a pine forest, interspersed with marshes.‡ Further N. the surface is more elevated, with a more agreeable aspect, a very productive soil, cotton being the staple product. The olive and fig flourish in the S. of the state, and the apple in the hills.

Jackson, the capital of the state, stands on the Pearl river, in a nice situation, and has the state public buildings. Natchez (8,000), the most important town in the state, stands on the river 300 miles above New Orleans; is divided into two parts—one on the margin of the river, consisting of warehouses, boarding-houses for boatmen, etc.; the other, standing on a bank 300 feet high, the residence of the chief citizens, has wide streets, ornamented with groves of orange and other trees. Large vessels come up to the town; but its river and inland trade is much in excess of that with foreign countries. It ships much cotton. Vicksburg (12,443), 106 miles more N., is picturesquely situated on several eminences,

* “Cut out of the forest” in 1832, had 6,000 inhabitants in 1852.

† Two tribes of Indians, the Choctaws and Chickasaws, inhabited this state until about the year 1830.

‡ The Yazoo swamp runs north of the river of same name, for 175 miles, and 50 in breadth, containing 7,000 square miles; is sometimes overflowed by the Mississippi, when it appears a vast marine forest. The head branch of the Yazoo, called the Cold Water River, communicates with the Mississippi by a “bayou” or creek called the Yazoo Pass.

around which several plantations flourish. It exports much cotton ; and was a great stronghold of the Confederates in the late war.

Louisiana,* having a long sea-board on the gulf, lies W. of the Mississippi, and E. of the Sabine river. Three-fourths of the surface consist of one continuous plain ; vast prairies are found here, over which herds of deer and buffaloes roam ; and the periodical overflow of the great river is kept off the plantations by a kind of embankment called a *levee*. Cotton and sugar form the principal productions, immense quantities of both being grown. The Red river, running through the state in a S.E. direction, joins the Mississippi midway between Natchez and Baton Rouge.

New Orleans (191,418), the third commercial town in the country, is the chief shipping port for the immense tract drained by the Mississippi. It stands 100 miles from the sea, in a low, damp position ; but its streets are wide, and well laid out ; and though many of its inhabitants were annually swept off by the yellow fever, yet it is now healthy. Opposite the city the river is about half-a-mile wide, and 150 feet deep. Immense quantities of cotton, tobacco, sugar, molasses, etc., are annually exported, besides flour, coffee, and other articles. Amongst its public buildings may be mentioned the State House, the Custom House, Exchange, the Mint, the Catholic Cathedral (an imposing building with four towers), the Ursuline Convent, the College of Orleans, several hospitals, theatres, etc. In 1862 it was taken by the Federals.

Baton Rouge, by the river 130 miles from New Orleans, with an arsenal, has many houses erected in the French and Spanish styles. It stands on an eminence 20 feet above high-water mark, and has lately become a great shipping port. **Alexandria** stands on the Red river, 100 miles from the Mississippi, in the centre of a rich cotton district.

Texas has a very fertile soil, producing much cotton of the very best quality. Texas has mountains on the N. frontier, which are covered with snow many months in the year. It slopes from the N.W. to the Gulf of Mexico. Sugar and cereals are largely produced. Peaches, cayenne pepper, and vanilla are much grown. This state is rich in minerals.

* Its inhabitants were principally French and Spanish colonists, now merged with immigrants from other states.

The productions find their way to Canada, New York, New Orleans, etc. It is drained by many rivers which flow into the Gulf of Mexico.

Austin (4,000), on the Colorado, is only known as the capital. **Houston**, on the Buffalo, is more important. **Galveston** (13,818) is the principal port. **San Antonio** (12,256), S.W. from Austin, is a growing town.

Arkansas,* so named from a tributary of the Mississippi, by which it is watered, is forest and prairie land, flat, hilly, and mountainous, as it recedes from the Mississippi. In many places the soil exhibits extreme sterility. Timber is a staple product. Minerals are greatly exported. Indian corn and cotton are the other staple products, but fruits of all kinds are abundant.

Little Rock (6,000), the capital, stands on the Arkansas, 300 miles from the Mississippi, on a high rocky cliff: hence its name, which was at first given in jest. A railroad connects it with Memphis,

Van Buren (35,000) is a commercial town in the W. *Batesville* is on an affluent of the White river, *Helena*, *Napoleon*, and *Columbia*, on the Mississippi, are the next most important places in the state.

Tennessee, further S., lies W. of N. Carolina, and is drained by the Cumberland and Tennessee rivers, which wind through it, and the Mississippi, which touches it on the W.; the district between the two last-named rivers being an undulating plain. In the middle the state is hilly, and in the E. mountainous. The soil is various—on the mountains barren, in the valleys fertile, and in the western plain a rich mould of extraordinary productiveness. Cotton and tobacco are produced in great abundance, saltpetre is exported, and also cattle from the E. Iron, gold, coal, and salt are the chief minerals.

Nashville (25,865), the capital, on the Cumberland, is a well built town, with a university, many fine public buildings, and active trade.

Clarksville, farther down the river, is a thriving little town.

* It was only in 1819 it became a separate territory. Wild turkeys are found in the woods in great flocks.

Knorville, on the Halston river, is declining. **Memphis** (40,226), becoming of great commercial importance, stands on the Mississippi.

Kentucky lies W. of Virginia and N. of Tennessee, and has the Ohio river on the N. for 637 miles, and Cumberland mountain on the S.E. The surface is very varied—mountainous on the E., hilly near the Ohio, and having many nice valleys interspersed. This state rests upon a bed of limestone about eight feet below the surface; and several caves are found. The crops are hemp, tobacco, and maize. Salt springs are numerous in this state.

Lexington (14,801), the oldest town in the state, is in the centre of a rich district, is a remarkably neat-built town, and has cotton and woollen factories.

Frankfort, the capital, picturesquely built on the Kentucky, amidst bold scenery, has a capitol of white marble. **Louisville** (100,753), a well built town, the centre of the wealth and intelligence of the state, is reached by large boats, by means of a canal, and is extensively engaged in trade and manufactures. Near it is the mammoth cave. **Maysville**, on the Ohio, is a trade centre. **Newport** (15,087), and **Covington** (24,505), opposite to Cincinnati, are rising towns of modern growth.

Ohio, an enterprising and populous state,* lies S. of Lake Erie and W. of Pennsylvania; is level in the N. and centre, but hilly in the E. and S.E., with great tracts of meadow land along the Ohio and other rivers. Rich iron and coal mines are found in the E.

Cincinnati (216,239), on both banks of the Ohio, with streets† running in regular parallel lines, has been called “Queen of the West,” and is a great commercial emporium. Among its establishments of industry are “brass and iron foundries, cotton mills, rolling and slitting mills, saw and flour mills, chemical works, etc.,” and above 3,000 steam-boats arrive here annually. The manufacture and export of household furniture are important sources of employment.

* The *Ohio Canal*, from Portsmouth on the Scioto to the Muskingum river, thence to lake Erie, a distance of 310 miles; and the *Miami Canal*, from Cincinnati to the Wabash, and thence to the Erie Canal, together with the *Pennsylvania Canal*, 85 miles long, reflect the greatest credit on the enterprise of the state.

† Seven of these are 66 feet wide and 132 yards apart.

Columbus (31,274), the capital of Ohio, stands pleasantly on the Scioto, is regularly built, with a square in the centre, around which many of the public buildings are erected. It is near the centre of the state. **Portsmouth** (10,592), already mentioned, is in an important position for commerce, and has many manufactories of iron, nails, etc. **Zanesville** (10,011), with a water communication with New York and New Orleans, has flour, paper, and saw mills. **Hamilton** (11,081), and **Acron** (10,006), are towns built within the last few years. **Cleveland** (92,829), a most important port on Lake Erie, stands on an elevated plain at the mouth of the Ohio canal, has a splendid harbour, secure and easy of access. **Toledo** (31,584), in the N.W., is an important railway centre. **Huron**, further W., is the centre of an industrial district, and *Norfolk*, in a highly fertile country, has some manufactures. **Dayton** (30,473) has important cotton and iron factories, with machinery works.

Portland, a busy and growing port, has a good harbour. **Sandusky** (13,000) is a rising port on Lake Erie.

Michigan is a large peninsula, washed by the lake of the same name and by Lake Huron, together with a district on the N.W. The surface is flat except in the N. peninsula, where some mountains rise nearly 2,000 feet, with a rocky coast. It is drained by numerous rivers, which flow into the lakes, and is a flat country, with a central table-land of a slight elevation, with sand hills in many places along the coast. Wheat, maize, oats, barley, and potatoes are the principal crops. It has a mild and temperate climate. Here are found very productive copper mines.

Detroit (79,577), on a river of the same name, which runs from Lake St. Clair to Lake Erie, has an admirable situation for commercial purposes on the Canadian frontier. More than twenty steam-boats ply between this town and Chicago and Buffalo. **Jackson** (11,447) is an important town. *Lansing* is a small and unimportant place.

Indiana, lying S. of Michigan and Lake Michigan, W. of Ohio, and for 360 miles separated from Kentucky by the Ohio river, is in some places hilly, though no mountains exist. This is a great agricultural state, exporting beef, pork, cattle, horses, swine, corn, tobacco, etc. Its coal beds are very extensive.

Indianapolis (48,244) stands on a plain near the White River, which drains the centre of the state ; has spacious streets and handsome public buildings. **Lawrenceburg**, on the Ohio, carries on extensive trade, but its low situation renders inundations frequent. **Madison** (10,709), about 60 miles further down the river, has a good trade. **New Albany** (15,396) is the largest town in Indiana, next to the capital. **Michigan**, on the lake, has an unsafe harbour, the lake shore being skirted with bare lofty sandhills.

Illinois, a fertile and improving state, lies W. of Michigan and Indiana. Two-thirds of the state are bounded by the Mississippi, Ohio, and Wabash rivers. Generally speaking, the S. and middle of the state are level, and the N.W. hilly. Much of the state is hilly. Its grand prairie is 150 miles long, and 10 miles wide. Maize is the staple crop, but wheat and rye are largely grown. Thousands of hogs and cattle are reared and exported. Coal and most of the useful minerals are found. In the N.W. lead is found in immense quantities.

Springfield (17,400), the capital, is an important railway centre:

Chicago (298,977), on lake Michigan, is now a flourishing port, with an artificial harbour ; has magnificent public buildings. This town was founded in 1833, and has doubled its population every four or five years. It is the centre of the great railway system of the W., ten or twelve lines converging to it—the greatest grain depôt in the world, the greatest hog market, and one of the greatest timber marts. It has an immense stock-yard, and several pork-packing houses, where, in the busy season, 4,000 pigs are daily killed. In 1871, at least 12,000 houses were burned ; and immense sums were subscribed everywhere for the inhabitants. **Alton** (7000) is a western depôt on the Mississippi, with fast increasing trade in agricultural produce.

Peoria (22,849) is also an important railway centre. **Aurora** (11,162), in the N.E., partakes, to a certain extent, of the great industry of Chicago. **Nauvoo**, on the Mississippi, was the former abode of the Mormons. **Galena** (9,000) is an important railway centre. Here are rich and productive lead mines.

Wisconsin, stretching from the Missouri to Lake Michigan, is a vast table-land ; but in some places a swampy marsh. The climate is severe in winter ; and extensive

pine and oak forests exist. Lead is abundant, and iron ore is found near Lake Michigan.

Madison City (6,000), the capital, is on the Rock river. **Milwaukee** (71,440), on Lake Michigan, has extensive trade in grain, bricks, provisions, and metallic ores. **Oshkosh** (10,633) is in an important agricultural district.

Missouri, the fifth state of the Union in size, and nearly equally divided by the river of the same name, is in the W. generally uniform, with gentle slopes and broad valleys, admirably adapted for farming purposes ; and in the S.W. has the most extensive bed of lead in the world. In the S.E. minerals are abundant. In the N. timber and prairie land* abound, well watered with numerous streams : an undulating and very salubrious region. Along the banks of the river, nearly two millions of acres are submerged during a part of the year. Iron ore is very abundant. Iron Mountain, which is 220 feet high, covers 500 acres, and is almost exclusively of this ore, besides several other hills. Next in abundance ranks lead ; and copper is found in sufficient quantities. Indeed almost every metal is found in this state. Turpentine, resin, and tar, can be easily manufactured from the sap of the yellow pines ; grapes flourish in the centre and south of the state.

Jefferson City (3,500) has the State house and several good schools. **Kansas City** (32,260) on the E. bank of the Missouri is an important town. **St. Joseph** (19,565) in the N.W. is on the Missouri. **Hannibal** (10,125), on the Mississippi, is a new town. **St. Louis**† (310,864), a great railway centre, is an important commercial station on the Mississippi, about twenty miles below its confluence with the Missouri. It has a Roman Catholic university, a museum, and a cathedral. It is one of the most favourably situated cities in America for general commerce. In 1804, it was a mere village ; and in 1813 the first brick house was erected.

* These prairies, in this state, are as large as Ireland.

† It was founded in 1764. It made no progress under the French and Spanish. It is centrally situated, about 1,800 miles from New York by water, and 1,200 miles from New Orleans.

Iowa, about 200 miles from N. to S., and 220 miles broad, is bounded N. by Minnesota, E. by the Mississippi, S. by the Missouri, and W. by Nebraska. It was formerly a portion of Missouri, but became a state in 1846. Its prairies offer great advantages for sheep-farming and cattle-rearing, by affording an inexhaustible pasturage. Cereals grow luxuriantly; hogs are innumerable; *Minerals* (particularly lead) are very abundant, and include iron and coal; manufactures are chiefly of articles wanted for home consumption, as coarse woollens, ploughs, thrashing-machines, etc.

Iowa City is a small town in the E. on the Iowa river.

Davenport (20,031), on the Mississippi, is the commercial capital of the State. **Burlington** (14,930) is further S. on the same river. **Dubuque** (4,000) exports lead. **Keokuk** (12,766) is also on the great river. **Des Moines** (12,035) is rather centrally situated, and has good trade by rail. **Waterloo** is a mining town. **Council Bluffs** (11,020), on the Missouri, nearly opposite Omaha, has rising trade.

California,* lying between the parallels of $32^{\circ} 20'$ and 42° N., and between the meridians of $114^{\circ} 20'$ and $124^{\circ} 25'$ W., is S. of Oregon, W. of Nevada and Arizona, with a length of 830, and a mean breadth of 230 miles.

The physical aspect of the country is determined by the two mountain ranges—the Sierra Nevada, and the Coast range, which, with the proximity to the great Pacific ocean, give somewhat peculiar features to the climate—being temperate near the coast, hot and dry east of the Sierra, and cold on the summits. The soil in the valleys is rich, affording excellent pasturage; and north of 39° are extensive pine, cedar, and oak forests. Wheat, barley, hops, hemp, flax, etc., are produced in abundance, particularly around San Francisco bay. The wet season is most intense in November. Grapes, from which delicious wines are made,

* The peninsula of Lower California, which still belongs to Mexico, was discovered in 1534-5, by Cortez, and Upper California, by Cabrillo, in 1542. The coast was visited by Drake in 1576. At the peace of 1848, between the United States and Mexico, this country was ceded to the former, just about the time of the gold discovery, which led to such a rush of immigrants from all parts of the world; and in 1850 it became a state.

are extensively cultivated in the warm valleys, and the silk crop is increasing ; but the most important production is gold, of which there seems to be an inexhaustive supply. Silver, quicksilver, and other minerals are also found ; but this state is gradually becoming more agricultural.

Sacramento City (16,283), on a river of the same name, is the capital. It is the miners' depot for an extensive district.

San Francisco* (149,473), a flourishing port on the bay of the same name, has extensive commerce. **Benicia** (7,000), an improving port, has a naval arsenal. **Stockton** (10,066) is the chief town from which the southern miners are supplied with necessaries. **Oakland** (10,500) is a town of modern growth.

Oregon, S. of Washington and N. of California, included Washington until 1853, and became a state in 1859. It is a splendid timber district, and is considered the best wheat-growing country in America. The temperature is rather cool, but in the S. tobacco grows. Wool is largely exported ; and rich gold mines have been found in the E. ; coal and iron are also found. The *Columbia*, with a course of 1,200 miles, forms for a considerable distance the boundary between Oregon and Washington. Its most important tributary is the *Willamette*, which rises in the Cascade range, and is 200 miles in length ; both rivers have magnificent scenery along their course.

Salem, the capital, is on the latter river ; and **Oregon City** is 50 miles lower down. **Portland**, a trade centre, is on the same river.

Minnesota,* which derives its name from the *Minnesota* river, is bounded N. by the British Possessions, E. by Lake Superior, Wisconsin, and the Mississippi river, W. by Dakota, and S. by Iowa. It occupies the central part of North America, " being midway between Hudson's bay and the

* The enterprising spirit of its inhabitants is practically confirmed by the piercing of the Sierra Nevada, in order to bring water for the city from Lake Tahoe, 100 miles distant.

† In the Sioux tongue, the "sky-tinted " or "muddy water." It was taken possession of by the French, 1680 ; ceded to Britain at the peace of 1763 ; has belonged to the United States since 1783, by which it was organised as a territory, 1849, and admitted as a state, 1854.

gulf of Mexico, and between the Atlantic and Pacific," with an undulating surface, and "drift hills in the north," rising from 100 to 600 feet in height. This is already a great agricultural country; wheat, for which this state is pre-eminent, being the principal cereal crop; meadow-grass is very abundant. Sheep farming is a profitable employment, in which many are engaged. *Minerals* are abundant; copper, iron, coal, and granite have been found. *Timber* is plentiful and valuable; and wild animals are numerous.

Saint Paul (20,030), at the head of the permanent navigation of the Mississippi, is a fast-improving town, and the chief commercial depôt of the state. **Saint Anthony** (7,000), nine miles above St. Paul, commands a splendid view of the *falls* from which it derived its name. It has great lumber and flour trade. **Minneapolis** (12,066), pleasantly built on a high rolling prairie, is connected with St. Anthony by an excellent bridge. **Winona**, the second town in the state, considered its southern capital, stands on the Mississippi, 100 miles from St. Paul by rail; and is the centre of an increasing trade. **Stillwater**, on the St. Croix, is a lumber centre. **Arroka**, on Rum river, has trade in making barrels. **Lake City** (4,000), on Lake Pepin, and **Portland**, on Lake Superior, are improving towns.

Kansas, extending from 37° to 40° N. latitude, and "from the state line of Missouri 600 miles westward," rises from the deep valleys of the streams by steps or terraces, which culminate in undulating uplands, on whose sides flourish luxuriant forests, with picturesque scenery. The soil is uniformly a rich loam; the atmosphere clear and pure, and often a month elapses without a shower. Its soil is the deepest and richest in the world. Coal and iron are abundant. The usual cereal crops are cultivated.

Topeka, the state capital, is a small town. **Leavenworth** (17,873), on the Missouri's left bank, is a great railroad and steam-boat trade-centre. **Lawrence** (7,000), a flourishing city on the Kansas, has considerable trade. **Lecompton** is also on the Kansas river.

Nebraska, a fine agricultural country, lies between Kansas on the S., the Missouri on the E., Dakota on the N., and Wyoming W. It was made a territory in 1854.

Its surface is a "gently rolling prairie;" its atmosphere is pure and clear, and rain falls in sufficient quantity to irrigate its luxuriant crops of Indian corn, wheat, oats, and tobacco. Coal and iron have been found 50 miles W. of the Missouri. The Platte river runs through the centre from W. to E.

Omaha (16,083), the capital, occupies a central and commanding position on the Missouri. It is a railway centre with an increasing trade. **Nebraska** is a fine growing town on the same river.

Nevada, a young and flourishing territory, very rich in minerals, forms the western side of the great basin inclosed by the Rocky mountains on the E. and the Sierra Nevada on the W., its valleys averaging 5,000 feet in height. It includes some mountain peaks rising 11,000 feet above sea-level, and is bounded on the N. by Oregon and Idaho, on S. and W. by California, and E. by Utah. This country is very unfavourable to agricultural pursuits, but is very rich in minerals, particularly silver. Several large lakes are in the W.

Carson City, the capital of this territory, is a rapidly improving town on the borders of California. **Virginia City** (10,000), the commercial capital, with rich silver mines in its vicinity, stands 6,000 feet above sea-level, and is quickly extending. It is built on the Carson river. **Austin** (5,000), the second town, is on the Reese river. **Lancaster** and **Centerville** are on the railway.

Washington, situated in the extreme N.W., bordering upon the British possessions and the Pacific, was only organized in 1853. It is divided into two parts, the eastern and western, by the Cascade mountains, which have here an elevation of from 5,000 to 7,000 feet, resisting the onward march of the settlers westward. The western division, about one-third of the whole, has some fertile prairies and an average amount of timber, with a mild climate, and a wet and dry season. The eastern division, sparsely inhabited, is mostly prairie country, with warmer summers, more produc-

tive valleys, and table-lands suited for grazing. It produces the usual cereals, and is rich in gold, silver, coal, lead, etc. *Puget Sound*, on the W., is a great lumbering district, and abounds with valuable fish.

Olympia (2,000), the capital, stands at the entrance of a small river into the sound.

The other towns are *Vancouver*, *Walla Walla*, *New York*, etc.

Dacota, lying W. of Minnesota, is traversed by the river Missouri. It is well adapted for agricultural purposes, and its plains are crowded with herds of buffaloes and other wild animals. The useful minerals are found here in good deposits.

Yangton, in the S., is the best known town. Mandan is a small town.

Idaho,* with a very diversified surface, is bounded N. by British America, E. by Montana and Wyoming, S. by Utah, and W. by Washington and Oregon. The climate is very various. This territory is well-known on account of its gold mines, which are rich and valuable, and dispersed in every direction: many of them are still unexplored. Agriculture is the prevailing industry of the state.

Boise, the capital, stands on a level plain on a river of the same name, thirty miles S.W. of Idaho City, also a small place.

Montana is a territory rich in minerals, agricultural produce, and timber, with pasture lands of unsurpassed magnificence: much of it is still unoccupied by the husbandman. The *Bitter Root* range is in this territory; and the Rocky mountains run through the W. from N. to S. Of the rivers, the *Yellow Stone*, *Milk*, and *Missouri* are the most important.

Virginia (5,000), *Diamond*, *Helena City*, in the Rocky mountains, and *Fort Alexander* on the Yellow Stone river, are the most important places in the territory

Colorado, generally speaking lying between the par-

* An Indian word meaning "the gem of the mountain."

allels of 37° and 41° N. latitude, and between the meridians of 102° and 109° W. longitude, has the great Rocky mountain range running from north to south through the centre, and covering two-thirds of the surface, leaving vast plains on the eastern and western sides. These mountains are almost treeless, with an uninviting aspect, and the plains almost barren ; the climate varies with the elevation, being delightful in the east. The snow does not fall in severe storms, but tends to saturate the rich grass which is parched by the scorching sun of July and August. Its gold mines are rich and productive, and have been worked since 1859. Iron ore and coal exist in small, and silver and lead in large quantities. About forty miles from Denver there are rich silver mines, now very productive.

Denver (8,000), the capital, stands thirteen miles from the Rocky mountains, is a great central station between the Mississippi and Salt Lake City, and is destined to become a great commercial depôt. It is connected by rail with St. Louis and San Francisco.

Central, Golden, Colorado, and Canon cities, are the other towns ; the first having become very important since the silver mines have been discovered in the neighbourhood.

Utah,* bounded N. by Idaho, E. by Colorado, S. by Arizona, and W. by Nevada, has been the seat of the Mormon† since 1847 ; is mountainous, and is noted for the luxuriance and abundance of its fruits. The climate is invigorating. The productions include cotton, in the south, and, further north, oats, barley, etc. The grape thrives well.

Great Salt Lake City (27,000), the capital, is one of the most beautiful cities in all America, with spacious streets running east and west at right angles, each 128 feet wide, bordered on either side by shady trees ; and streams of water are constantly flowing. It is surrounded by rocky hills, and has an extensive trade. Camp Douglas is a military station, whose guns command the city. *Filmore City* ranks next in importance to the capital.

* So called from its Indian settlers, the Yuta—" mountain-dwellers."

† The Mormons are a peaceful, industrious people, whose religious tenets are repugnant to most of the rest of mankind.

Arizona,* whose mineral wealth was early known to the Mexicans, is bounded N. by Nevada and Utah, E. by New Mexico, S. by Texas, and W. by California, from which it is separated by the Colorado. It is watered by many clear streams teeming with trout and other fish, has an inexhaustible supply of timber, and produces immense quantities of grain, and a great number of cattle. Rich mines of gold, silver, and copper are worked. The climate is salubrious, with very little snow or frost, and a rainy season from June to September. Cotton, corn, tobacco, peaches, and vegetables, thrive well.

Prescott, the capital, in the centre of a valuable mining district of gold, silver, and copper, is built of wood, and is inhabited by immigrants from California and Colorado; amidst pine-clad mountains, subject to frequent heavy rains, it is like a New England city.

Tucson, with a large Spanish population, is an improving town.

New Mexico,† lying S. of Utah and Colorado, and N. of Texas, is traversed by stupendous mountain chains towards the E., with occasional gaps or passes, with the river Colorado running more to the west, nearly parallel to the great range. East of the mountains the valleys and slopes are very productive, and well adapted for sugar cultivation. On the west are immense plains with small villages interspersed, mostly inhabited by half-breeds and Mexican settlers. The winters are exceedingly mild; and luxuriant orchards are found along the Colorado. Gold is found in Placer mountain, near Santa Fé, in rich veins, and in other places; silver in Organ mountain; copper and iron abundantly, about 50 miles W. of Santa Fé, and other places. Good wheat is raised; maize, vines, and peaches thrive well in the south. The great staple of the country consists of red and green pepper.

* In the original *Arizuma*, which is usually taken as equivalent to "silver-bearing." This territory was infested until lately by a fierce tribe of Indians, called *Apaches*.

† Until 1846, this was a province of Mexico; and by a peace between that country and the United States, it was given over to the latter, 1848, and colonized 1850. It was named (1870) Lincoln, after the president who was assassinated.

Santa Fe (8,500), on an arid plain, has considerable caravan trade. It is in a picturesque district among the mountains.

Wyoming, to the S.W., is mountainous on the W., but also contains many wide, fertile valleys, very productive. Its gold mines are rich.

Alaska,* until very lately "Russian America," and in reality a continuation of Siberia, lies in the extreme W., bordering upon Behring's straits; is a wild and desolate region, but imperfectly explored, with an inhospitable climate, moderated to a small degree by the Pacific winds. The river Yukon waters a great forest district in the interior. Bears and deer are found in great numbers.

Sitka, the most rainy place in the world, though far north, has not a very severe winter. It has good salmon fisheries.

Indian Territory is a district set apart for the Indian tribes. It lies N. of Texas, and is becoming civilized.

Fort Washita is on the Washita river, a tributary of the Red river.

Columbia (district of), containing the metropolis of the United States, lies on both sides of the Potomac, near its mouth.

Washington (109,199), the capital of the United States, is a beautiful city, intersected by shaded avenues, named after the various states. The capital or parliament-house is a magnificent building. See *Georgetown*.

Mountains.—The mountains of the United States have already been fully described.

Rivers.—The **Hudson**, remarkable for magnificent scenery, is navigable for 117 miles, up to Hudson, and for smaller vessels, to Troy, 50 miles farther up the stream. It is of great commercial importance, and contains many fine towns on its banks. The **Connecticut** traverses a rich valley, and enters Long Island sound. The **Delaware** separates Pennsylvania from New Jersey. The **Susquehanna** rises in Lake Otsego, and flows into Chesapeake Bay. The **Potomac** forms the boundary between Maryland and Virginia, and enters Chesapeake

* Numbers of *Kalosh* Indians, whose custom is to burn their dead, abound in this region, which is now about to be made a penal colony for the United States.

bay after a course of 350 miles. The James is navigable to Richmond. The Savannah is navigable for boats up to Augusta, 130 miles. It forms the boundary between South Carolina and Georgia. The Trinity, Brazos, and Colorado, all run parallel to each other through Texas. The Rio Grande del Norte rises in Colorado, flows through a nice valley in New Mexico, and forming for several hundred miles the boundary between Texas and Mexico, enters the Gulf of Mexico, below Matamoras. The Colorado drains a very large district, and enters the Gulf of California. The Columbia or Oregon rises in the Rocky mountains, first turns S. through Washington, then flows W., receives the Snake river; now forms the N. boundary of Oregon, rushes through the mountainous country with great force, and, at Pacific City, falls into the sea. Its course, though not yet thoroughly explored, is about 1,200 miles.

Lakes.—The most important lakes have been described.

Education.—This great country has made the most ample and liberal provision for the education of its inhabitants in every state of the Union.

“The United States’ Commissioner of Education gives, in his last annual report, some statistics of ‘illiteracy’ in this country, as shown by its census of 1870. It is stated that among the population ten years old and upwards, 5,660,074 were found to be illiterate. Classed according to their nativity, 4,882,210 were natives, and 777,864 of foreign birth. According to residence, there were 4,189,972 illiterates in the Southern States, 1,356,102 in the Northern, and 114,000 in the Pacific States and Territories. According to colour, nearly 2,900,000 were whites, and above 2,700,000 were persons of colour. According to age, about 3,600,000 were adults, of whom nearly 2,500,000 were in the Southern States; and 2,000 were minors—that is to say, between 10 and 21 years of age—and 1,700,000 of these were in the Southern States. According to sex, there were 2,600,000 males, and 3,000,000 females. A table of ratios of illiteracy is given, showing that in proportion to the population of the three divisions—Northern, Pacific, and Southern—the illiteracy of the Northern is about one-half of that of the Pacific, and less than one-fifth of that of the Southern; that the native illiteracy of the Northern division is less than one-tenth of that of the Southern; that the white illiteracy of the Northern is less than one-half of that of the Southern; and the coloured illiteracy of the Northern is about 1-48th part of that in the Southern; and that in the Southern division the adult male illiteracy is nearly four and one-half times, and the total minor illiteracy more than ten times as great as that in the Northern division. It is

stated that, upon an average, in every 10,000 inhabitants of the United States, there are 8,711 whites, 1,266 coloured, 16 Chinese, and 7 Indians."

Population.—The American census shows that the whites number 33,586,989; the blacks 4,880,000. There are 23,731 Indians, and 63,254 Chinese (the latter are chiefly in California). Of the total population (38,555,983) 5,566,466 are foreigners, principally Germans and Irish. The Indians enumerated are exclusive of about 142 tribes, or 288,716 persons of the wandering "red-skins," and the estimated 75,000 Indians of Alaska.

American Railways.—The characteristic feature of the American railway system is the immense length of its several lines, particularly the great line connecting New York with Sacramento. Taking Chicago (the greatest of the railway centres), we have, on the great western line, Iowa city, Omaha, Cheyenne (Denver, on a branch), Benton, Ogden, and Sacramento. Proceeding from Chicago, E., by the Grand Trunk, we meet Michigan, Buffalo, Jackson Detroit, Sarnia, London, Toronto, Kingston, Prescott, Montreal, Richmond (another railway centre). From Chicago, a main line runs E. of the Mississippi to New Orleans. In fact, all the important towns in the northern, and most of those in the southern states, are connected by railways. Several lines converge at New York.

Agriculture.—Agriculture is the most important industry of the United States, and the quantity of land under cultivation has of late years greatly increased; and the system of tillage is now as good as any in use in the Old World. Indeed most of the towns in the western states owe their rapid development to agricultural industry.

Wheat is very largely raised, Illinois being perhaps the best state for this crop. *Maize* or Indian corn is raised in every state of the union, and affords an unfailing crop, producing food for man and beast. *Barley*, *oats*, *rye*, and *flax* are also much grown. *Cotton* is largely grown in at least eight of the Southern states. *Sugar* is principally cultivated in Louisiana and the adjacent districts. *Hops*, with New York as their chief centre, are raised in almost every state; and potatoes are as widely distributed. *Wine* is now produced in large quantities in California, Ohio, and Kentucky. *Tobacco*, though cultivated everywhere, has its chief seat in Maryland, Virginia, and Kentucky. *Rice*

is principally produced in South Carolina and Georgia. *Fruit* is largely raised, and extensively used in confectionery. *Hay* and *pasturage* cover much of every state.

Manufactures.—Many of the manufactures can only be said to be in their infancy ; yet, this great country has the credit of exhibiting unusual inventive genius in the production of new machines, and other articles previously unknown.

The *Iron manufacture* is very important, its principal seat being Pittsburg, where every kind of locomotive engine and machinery is produced. Indeed, the state of Pennsylvania produces three-fourths of all the iron, the rest being found in New York, Ohio, and Massachusetts. *Cotton* is manufactured mostly in the New England states, with Massachusetts as centre, where, also, the *woollens* have their chief seat. *Leather* is produced to the greatest extent in New York, Massachusetts, and Pennsylvania, where the number of persons engaged in the boot and shoe trade is enormous. *Timber*, in felling, sawing, and making into furniture, etc., is a remunerative industry. In the production of *books*, Boston stands first. *Salt* refining, brewing, and distilling, gives extensive employment.

Petroleum*—This oil, so greatly in use at present, is found in large quantities in the states, Canada, and Mexico. It is found in springs among the coal beds ; and these places are called oil wells, and are often 500 or 600 feet in depth.

REPUBLIC OF MEXICO.

Mexico is bounded on the N. by the United States, on the S. and S.E. by the Gulf of Mexico and Central America, on the W. by the Pacific. Its length is 1,800 miles, and its breadth 1,250 miles in the N., and 70 at the isthmus of Tehuantepec. The coast line in the Gulf of Mexico is about 1,600 miles, and on the Pacific 4,200.

Much of the surface consists of an elevated plateau, supported by two mountain chains, one on the E., near the Gulf, the other on the W., near the Pacific. Some mountain peaks rise in this plateau to 17,000 feet. The surface has been divided into three districts : (1) the "hot

* From *petra*, a rock, and *oleum*, oil.

lands," a narrow belt on each coast, reaching up the mountain sides about 3,000 feet; (2) the "temperate lands," embracing elevations from 3,000 to 8,000 feet, and including the central plateau; (3) the "cold lands," which comprise the high mountains, some of which reach above the snow line.

In consequence of the internal disputes, quarrels, and civil wars, this country is in a very backward state, and every industry is in a languishing condition.

Mexico is divided into fifty departments, most of which are the same name as their capital towns.

TOWNS.

Mexico (200,000) is a splendid city, standing on a table-land 7,468 feet above sea-level, in a vale between hills. The streets are wide, and the houses, though only one story, well built, and greatly ornamented in front. Flowers and fruits are brought in from the country in great quantities for sale. There is little appearance of industry—gambling, smoking, and intrigue being the most attractive pursuits.

The second largest town, **Puebla** (75,000), is also on a table-land of the same elevation. It is well built, has wide streets, and handsome squares. Its trade is pretty extensive, particularly in glass, soap, and earthenware. It was bombarded and taken by the French in 1863, and by the United States in 1847. It is between the capital and **Vera Cruz** (10,000), noted as the abode of pestilence. It is a port on the Gulf, in a marshy situation. **Guadalajara** (70,000), on the Santiago, has trade in earthenware and leather-work. **Guanajuato** (60,000) has important and prolific silver mines in the neighbourhood. **Queretaro** (48,000), N. of the capital, with woollen manufactures, was the scene of the betrayal, by Lopez, of the Emperor Maximilian, who was shot here, 1867. **San Luis** (40,000), N. of the capital, among the mountains, is in an important mining district. **Matamoras** (40,000), on the Rio Grande, near its mouth, is an active port, which was much resorted to during the Civil War in the United States, 1862-6. **Colima** (30,000), almost exclusively inhabited by Indians, is an active port on the Pacific. (**Oaxaca** 25,000) is in a delightful valley. It has a cathedral, and many factories of sugar, cotton, perfumery, etc. **Zacatecas** (25,000) is a mining city, 260 miles N. W. from Mexico. **Morelia** (23,000) enjoys a delicious climate. It has a cathedral.

Durango (22,000) is a handsome cathedral city, with some manufactures: near are gold, silver, and iron mines. **Mazatlan**, at the entrance of the Gulf of California, is a neat town, with some trade.

Xalapa or **Jalapa** (10,000) is 50 miles N.W. from Vera Cruz, gave its name to a well-known drug found in the neighbourhood. **Tampico** (7,000), on the E. coast, has active trade. **Acapulco** (5,000), on a splendid harbour on the E. coast, exports indigo, silver, cochineal, and skins; however, with very little trade. **Merida** (40,000) lies 25 miles inland. It is the capital of Yucatan, and has for its port *Sisal*. **Campeachy** (15,000) is 95 miles to the S.W.; it is situated on the bay of the same name. It exports cotton, cigars, wax, and logwood. **Carmen**, on the Gulf of Campeachy, is a free port.

Mountains.—The mountain system is very peculiar, most of the mountains rise from the table-land as from a base. In the S. they rise little higher than the table-land; but in the N. three ranges are distinguished—one of which enters the United States, and is continued in the Rocky mountains proper. *Sierra Madre* is said to be the richest in minerals of any mountain in the world.

Popocatepetl, “mountain of smoke,” is the culminating point of the Mexican mountain system. About 12,000 feet up its sides it is covered with plantations. It is an active volcano, S. of the capital, and rises to 17,700 feet. *Colima* is also an active volcano near the Pacific. *Jorullo*, in 1759, rose from a level with the plain to 4,400 feet; and seven years before the bed of the Del Norte became dry for 150 miles among the mountains on the borders of the United States. *Orizaba* (17,400), near the town of the same name, is an extinct volcano.

Rivers.—The *Rio Grande* forms the boundary between this country and the United States. The *Santiago* rises in the table-land near Mexico city, passes through lake Chapala, and enters the Pacific. The *Colima*, *Balsas*, and *Tehuantepec* flow into the Pacific. The rivers of Mexico have many rapids, and are in general unsuitable for navigation.

Productions.—Mexico is considered one of the richest countries in the world in minerals; but the inhabitants have neglected the more useful minerals for the precious metals. Tobacco, sugar, coffee, cotton, cocoa, pepper, drugs, maize, with oranges, lemons, mahogany, and india-rubber are the chief productions. Maize is the chief article of food. Dye-woods are found in many places.

Animals.—Among the wild animals are the grizzly bear, bison, tapir, jaguar, wolf, lynx-cat, monkey, alligator, rattlesnake, with parrots,

and many other birds of brilliant plumage. Sheep, horses, and mules are exported. Cochineal insects are carefully preserved.

Inhabitants.—The population is made up of (1) *Creoles* or Whites, about 300,000, who are the chief landed proprietors, or aristocracy; (2) those who are descended from the ancient Spaniards, chiefly small landowners, lawyers, or belong to the army or civil service, about 800,000; (3) the *Indians*, about 5,000,000, who are in a state of abject misery and serfdom; (4) the *Mestizos** or mixed races, consisting of many classes, about 1,500,000; (5) the Europeans, consisting of Spanish, French, and Germans. Some savage tribes of the Indians still rove about on the mountains, and plunder whoever they can.

Education.—Education is backward, though of late improving. There is a university at Mexico; and the Church, which is almost exclusively Catholic, is under an archbishop and eleven bishops. A school of mining and a medical school have lately been opened; but the unsettled state of the government renders all attempts at improvement slow and unprofitable.

CENTRAL AMERICA.

Central America extends from 8° to 18° N. latitude, and from 84° to 94° W. longitude. It includes five republics and a territory, which may be tabulated as follows:—

States.	Area.	Population.	Capitals.
1 Guatemala, -	40,781	1,180,000	New Guatemala.
2 San Salvador, -	7,355	600,000	San Salvador.
3 Honduras, -	47,095	350,000	Comayagua, on the Humuya.
4 Nicaragua, -	58,173	400,000	Managua.
5 Costa Rica, -	21,495	135,000	San José, in the centre.
Balize, -	14,500	25,635	Balize, on the E. coast.

This district connects Mexico with S. America, and includes the isthmus of Panama. Its length is about 1,400 miles, and its breadth varies from 30 to 300 miles.

Guatemala, in the N., stretches from sea to sea. It

* These consist of *zambos*, or the children of an Indian and a negro; *mulattoes*, or the issue of a white and a negress; *terzerons*, or the issue of a white and a mulatto female; *quadroons*, or the issue of a *terzeron* and a white, and so on.

contains a plateau 6,000 feet high ; produces a great quantity of cochineal ; and contains the ruins of many ancient edifices. The president is elected for life.

New Guatemala (40,000) is 120 miles from the Atlantic, and 50 from the Pacific. It is 4,372 feet above sea-level. It is a well-built city with a university, and houses of only one story. The inhabitants are skilful in embroidery, muslin, silk, and cotton manufactures. **Old Guatemala**, only 12 miles distant, was nearly destroyed by an earthquake in 1773. Two volcanoes are near it, both rising nearly 14,000 feet above sea level.

San Salvador lies along the Pacific ; though the smallest state, it has the greatest population in proportion to its size. The surface is hilly and mountainous. It produces the famous balsam of Peru. The president is elected for six years.

San Salvador (10,000), the capital, is some miles from the Pacific. **Cojutapeque** is the only other inland town. There are three seaports : **Acajutla**, **Libertad**, and **La Union**.

Honduras lies on the Caribbean Sea. It has splendid forests of mahogany and other woods. Its president is elected for four years. Its trade is chiefly with Great Britain.

Comayagua (8,000), near the centre of the state, was formerly much more important. **Omoa**, the chief port, is said to be the hottest place in the world. **Truxillo** is also a port in this state. Here the filibusterer, Walker, was shot, 1860.

Nicaragua, the most thickly wooded district of Central America, has an extensive coast-line on both seas. It contains the large lake of the same name, drained into the Atlantic by the River San Juan. It is hilly, and very thinly populated.

Managua, the capital, is on a lake of the same name. **Leon**, on the coast, was the former capital. **Greytown**, on the coast, has an excellent harbour. **Blewfields** is a badly-built town. It was, until lately, the residence of an Indian king under the protection of Britain.

Costa Rica also extends from sea to sea, and is naturally divided by a range of mountains into the basin of the Pacific and that of the Caribbean Sea. It has coal and valuable woods ; coffee is the staple export. It has some gold mines. The President is elected for 3 years.

San Jose, in the mountain region, is subject to volcanic action. **Cartago** is nearly in ruins. **Punta Arenas** is the chief port.

Balize, Belize, or British Honduras, lying S. E. of Yucatan, and N. E. of Guatemala, extends about 150 miles inland. It is a dependency of Jamaica. It has very valuable forests of mahogany and logwood.

Belize is a town entirely built of wood, and has the chief trade of the country.

Mountains.—The mountains are here more of the table-land form. The plateaux consist of that of *Guatemala* (4,000 feet), *Honduras* (4,000 feet), and *Costa Rica* (2,000 feet). Some of the mountain peaks rise to a considerable height—the volcanoes in Guatemala 13,000 feet, *Iraeu* in the S. 11,000 feet, and *Pico Blanco*, also in the S. 11,000 feet.

Rivers.—The *San Juan*, which is, on account of rapids, unfavourable to navigation, runs into the Caribbean Sea. The *Rio Dulce* flows into the Bay of Honduras.

Lakes.—*Nicaragua*, *Managua*, *Golfo Dulce*, and *Peten*, with many smaller ones.

Inhabitants.—These consist of the descendants of the Spaniards, by whom the country was conquered, 1524, and the mixed race, the offspring of the Europeans and Indians. Revolutions are of frequent occurrence.

THE WEST INDIES.

The West Indies consist of an immense number of islands extending from Florida to the coast of S. America, in a S.E. direction. They consist of three groups—the **Greater Antilles**, consisting of the four largest islands in the centre of the group ; the **Lesser Antilles**, which are divided into the *Virgin*, or *N. Caribbees*, *Windward*, or *S. Caribbees*, and the *Leeward*, or Venezuelan coast islands ; and the **Bahamas**, S.E. of Florida.

THE FOLLOWING TABLE GIVES A GENERAL VIEW OF
THESE ISLANDS:—

Island.	A	Population.	First Occupied by	Chief Town.
BRITISH ISLES.				
Bahamas, .	5,124	35,000	Spain & Eng. 1629	Nassau.*
Jamaica, . .	6,400	441,433	Spain, 1510, {	Spanish Town.*
Caymans, . .				Kingston.
Virgin Isles, .	144	6,051	Dutch, 1648, .	Roadtown.*
Anguilla, . .				
Barbuda, . .	25	2,500	England, 1640, .	
St. Christopher, .	75	1,700	Do., 1632, .	Basse-terre.
Nevis, . . .	20	12,000	Do., 1625, .	Charlestown.
Antigua, . . .	108	35,000	Do., 1632, .	St. John.*
Montserrat, . .	54	7,650		Plymouth.
Dominica, . . .	288	25,000	French, 1610, .	Roseau.
St. Lucia, . . .	300	29,000	English, 1638, .	Castries.
St. Vincent, . .	130	30,000	French, 1719, .	Kingstown. .
Barbadoes, . . .	166	163,000	English, 1625, .	Bridgetown.*
Grenadines, } .				
Grenada, . . .	138	36,000	French, 1650, .	St. George.
Tobago,	99	16,300	Dutch, 1632, .	Scarborough.
Trinidad; . . .	2 000	95,000	Spain, 1535, .	Port of Spain.
SPANISH ISLES.				
Cuba,				Havannah.
Pinos,	49,094	1,396,530	Spain, 1511, {	Trinidad.
Puerto Rico, . .	4,013	583,308	Do., 1509, .	Cuba, Matanzas.
				San Juan de P. R.
FRENCH ISLES.				
St. Martin (N. pt.)	30	6,366	France, 1635, .	
Desirade, . . .				
Guadeloupe, } .				
MarieGalante, } .	635	151,000	Do., {	Basse-terre,
Les Saintes, } .				Point-à-Pitre.
Martinique, . .	181	139,000	Do., {	Fort Royal,
				Saint Pierre.
DUTCH ISLES.				
St. Martin (S. pt.)			(See above.)	
Saba,	15	1,617	Spain, 1643, .	
St. Eustatius, .	190	2,000	Do., .	
Buen Ayre, . . .	82	2,300	Do., .	
Curaçao,	171	20,000	Do., {	Willemstad,
Oruba,	57	1,500	Do., .	Curaçao.

* One of the five British Governments,

Island.	Area.	Population.	First Occupied by	Chief Town.
DANISH ISLES.				
St. John, . }	154	44,000	Danes, 1717, {	St. John.
St. Thomas, }			Do., 1671, {	St. Thomas.*
Santa Cruz, . }	74	23,000	Dutch, 1643, . }	Christianstad.
SWEDISH ISLE.				
St. Bartholomew,	16	3,000		Gustavia.
VENEZUELAN.				
Margarita, }	380	32,000	French, 1635, . }	
Tortuga, . }				
INDEPENDENT.				
Hayti, or St. }	28,000	717,000	Spaniards, 1493 {	Port-au-Prince,
Domingo, }				St. Domingo.

THE BAHAMAS.

The Bahamas all belong to Great Britain. They consist of *Great Bahama*, *Andros*, *New Providence*, *San Salvador* (on which Columbus first landed), *Long Island*, etc. They produce some cotton, sponges, etc.

Nassau (7,000) is the capital (on New Providence). It has a good harbour.

THE GREATER ANTILLES.

Cuba, the largest of the West India islands, is 700 miles long, and 130 broad; has among its inhabitants about 900,000 whites and mulattoes, and 600,000 negro slaves and Chinese coolies. It is rich in minerals and vegetables. The *Sierra del Cobre* (7,200 ft.) furnish one-sixth of the copper produced in the whole world. Coal abounds, and the mountain slopes are covered with mahogany and other timber. About 2,500,000 acres only are cultivated, teeming with maize, yams, potatoes, sugar, coffee, cotton, tobacco, and indigo; sugar and tobacco being the staples. The inhabitants are active and energetic. Slavery prevails, but free

* The central packet station for the whole islands.

labour by the coolies is gaining much popularity. The Americans are the principal manufacturers, except cigar makers. The shopkeepers are mostly Germans.

Havannah (200,000) stands on the N. coast and has a good harbour. Its cathedral is the chief public building. Here lie the remains of Columbus. Matanzas (35,000), about 50 miles to the E., is a rising seaport. Santiago (37,000) is the principal port in the S.E. Puerto Principe (30,000) is a pretty good town in the interior.

Jamaica, the most valuable of the West Indian possessions of the British Empire, is situated 80 miles south of Cuba, and about 100 west of St. Domingo, has a length of 150 miles, and an average breadth of 40, with a population, of whom at the last census all, except 14,000, were Blacks. A lofty range of mountains, called the *Blue Mountains* (7,000 feet), traverses the entire island from E. to W., and sends out to the coast rippling streams, none of which, except the *Black River* on the S.W., is navigable.

That portion of the island north of the mountains, has the most imposing scenery; green slopes rise from the shore; tier after tier of hills clad with delightful tropical vegetation, and still higher, with that of more temperate climes, tower in succession until they finally blend with the great range. Between the hills are fertile valleys, interspersed with brawling streams or noiseless rivers meandering towards the sea. On the southern declivity of the mountains the descent is more rapid, more rugged, but much less picturesque. The climate of the island, except in the elevated regions, is excessively hot; the sugar-cane, maize, rice, yams, coffee, and cotton, are cultivated; the forests produce excellent timber, including mahogany; vegetables are also numerous, and no part of the New World yields more excellent fruits. Horned cattle, sheep, goats, and hogs abound; and its rivers and seas produce many varieties of excellent fish. Sugar and rum are the two principal industrial commodities exported, though lately the production of the former has much declined. The government of the island, which meets in Spanish Town, the political capital, consists of a governor and council, appointed by the crown, and a house of assembly elected by the people, many members of which are coloured. Jamaica was discovered by Columbus in 1494; in 1655, it was taken by Admirals Penn and Venables; in 1834 the slaves were emancipated; in 1831 an insurrection of the slaves occurred, many plantations were burned, and with difficulty they were

overpowered by the governor, Lord Belmore ; in 1815 the island was visited by a great deluge, hundreds of houses having been washed away ; in 1795, and 1745, and 1866, insurrections also broke out.

Puerto Rico belongs to Spain. It is a beautiful island with a diversified surface.

San Juan (30,000), the capital, is on the N. coast. It has a good harbour, and is well fortified.

San Domingo,* Hispaniola, or Hayti, is about 360 miles long. It is the most fertile island in the West Indies. Its surface consists of ranges of mountains, from 2,000 to 3,000 feet high, but attaining in Mount *Cibao*, near the centre of the island, an elevation of 8,000 feet. The coast has many good harbours. The climate is unhealthy to Europeans. The forests are valuable.

Port Republican (20,000) has considerable trade with the United States and Jamaica. It has some good public buildings.

San Domingo (15,000) is the oldest European settlement in America, having been founded by Columbus, 1504. **Santiago** (12,000) is a port on the N. coast.

LESSER ANTILLES.

The **Virgin Islands** have exports of sugar, molasses, rum, and copper ore. They are **Anagada**, **Tortola**, and **Virgin Gorda**.

Tortola is the capital of the English Isles, and **Christianstadt** (8,000) of the Danish. **St. Thomas** has postal communication with **Havannah**, **Demarara**, **Nicaragua**, and **Jamaica**.

The **Leeward Islands** are **Antigua**, **Anguilla**, **St. Christopher**, **Barbuda**, **Montserrat**, **Nevis**, and **Dominica**.

The largest towns are **Gustavia** (10,000), **Point-à-Pitre** (10,000), **Basse Terre** (in **Guadeloupe**, 6,000), and **Basse Terre** (in **St. Christopher**, 6,000).

The **Windward Islands** are **Barbadoes**, **Trinidad**, **St. Lucia**, **Tobago**, **St. Vincent**, **Grenada**, and the **Grenadines**.

* It consists of two republics—the **Haitian** in the W., and the **Dominican** in the E., the capital of the one being **Port-au-Prince**, or **Port Republican**, and of the other **San Domingo**.

The largest towns are **Port of Spain** (12,000), **Bridgetown** (20,000), **Kingston** (on St. Vincent, 5,000), and **St. George** (5,000).

The following are properly the Venezuelan Isles :—*Martinique*, *Curaçao*, *Buen Ayre*, and *Oruba*.

The **Turk Isles**, now belonging to Britain, are S. of the Bahamas.

Productions, etc.—The most important productions of the West Indies are sugar, rum, coffee, allspice, cotton, tobacco, citron, yam, pepper, indigo, jalap, ginger, oranges, lemons, and figs. The *Birds* are of great variety, and exhibit beautiful plumage. The productions are of much less importance since the abolition of slavery, the negroes being too slothful to engage actively in labour. The *Minerals*, particularly copper, are very valuable. Lead, silver, coal, tin, and iron, are also found.

Education is very backward among these islands. Most of the wealthy classes send home their children to be educated in Europe. A good system of primary education has lately been introduced into Trinidad, with promising prospects.

The **Bermudas**, an important naval station, consist of above 400 islets belonging to Great Britain. They enjoy a perpetual spring, but are subject to hurricanes.

Hamilton, the capital, is on Long Island, the largest of the group. **St. George** is on the island of the same name.

SOUTH AMERICA.

South America extends from $11^{\circ} 20'$ to $55^{\circ} 58'$ S. latitude, and from 35° to $81\frac{1}{2}^{\circ}$ E. longitude. Its length from Cape Gallinas to Cape Froward, on the straits of Magellan, is about 4,500 miles ; and its breadth from Cape Branco, its most eastern, to Cape Parina, its most western point, 3,000 miles ; under the equator is 2,100 ; and at Buenos Ayres 900 miles.

STATES OF SOUTH AMERICA.

States.	Government.	Area.	Population.	Capitals.
1 Brazil, -	Empire,	8,230,000	11,780,000	Rio de Janeiro
2 Colombia, -	Republic,	514,000	2,794,473	Bogota.
3 Peru, -	Republic,	510,100	2,500,000	Lima.
4 {Chili, -	Republic,	132,609 }	2,084,945	{Santiago.
{Patagonia, -	Colony,	356,000 }		{Port Julian
5 Bolivia, -	Republic,	565,000	1,987,350	Chuquisaca.
6 Venezuela, -	Republic,	368,220	1,565,000	Caracas.
7 La Plata, -	Republic,	542,800	1,465,000	Buenos Ayres.
8 Paraguay, -	Republic,	89,259	1,337,440	Asuncion.
9 Ecuador, -	Republic,	285,350	1,040,370	Quito.
10 Uruguay, -	Republic,	71,737	240,965	Monte Video.
11 British Guiana,	Colony,	76,000	155,026	Georgetown.
12 Dutch do.	Colony,	58,800	110,118	Paramaribo.
13 French do.	Colony,	35,080	24,432	Cayenne.
14 Falkland Isles,	Br. Colony.	7,600	592	Stanley.

Bays, etc.—Commencing at the isthmus, and going eastward round the coast, are, *Darien, Venezuela, Paria*, gulfs; *Santos* or *Bahia, Anna*, bays; gulfs of *San Matias* and *St. George*. On the Pacific coast, *Guayaquil, Penas, Trinidad*, gulfs.

Islands.—The *Venezuelan* coast-range, *Joannes* in the mouth of the Amazon, the *Falkland Isles, Terra del Fuego*, and *Staten* isles in the S.; *Chiloe, Galapagos, Chincha, Juan-Fernandez, Felix, Wellington, Hanover, Queen Adelaide*, and many other islands in the Pacific.

Straits, etc.—*Magellan*, and *Le Maire*, on the S.

Capes.—On the W. coast, *St. Francisco, Point St. Helena, Blanco, Ahuja* (point), *Froward*; the most S. point, *Horn*, which is 4,000 feet high; on the E., *Blanco, Corrientes, San Antonio, St. Maria, Frio, Branco*, and *St. Roque*; on the N., *Cape Do Norte*, and *Point Gullinas*.

Mountains.—The *Andes* or *Cordilleras*, running from N. to S., the *Parimé*, in Venezuela, the *Tumucuraque*, S. of Guiana, the *Cordillera Grande* and *Vermetha*, with many other mountain chains, in Brazil.

The **Andes** may be traced from the islands in the S. to the vicinity of the isthmus of Panama. They are composed of a series of chains of mountains, more or less parallel, inclosing vast elevated plains or table-lands, and of several great groups, like knots or articulations, at distant intervals. Their entire length is about 4,500 miles.

In *Patagonia*, they extend about 970 miles, with an average elevation of 3,000 feet, and coming close to the sea south of the parallel of 40° S. latitude. The highest peaks are *Yanteles*, an active volcano (8,030 feet), and *Mount Darwin*, on the island of Terra del Fuego (6,800 feet).

In *Chili*, they have a length of 1,200 miles; some of their summits supposed to rise to 17,000 feet. An important pass enables travellers to cross from Buenos Ayres to Valparaiso, crossing the mountains at an elevation of 12,700 feet. On the E. side of the range, between 33° and 24° S. latitude, two chains, the *Sierra de Cordova*, advancing into the E. plains, and the *Sierra de Salta*, form buttresses, as it were, to the main chain. The mountain is more steep on the E. than on the W. side. *Aconcagua*, the highest peak in the New World (23,910 ft.), is $32^{\circ} 38'$ South.

In *Peru*, the Andes extend for about 1,250 miles, separating into two branches near Potosi, called the E. and W. Cordilleras of Bolivia, which enclose a vast plateau,* and reunite after 350 miles. The E. branch contains *Illimani* (24,350 ft.), near La Paz; *Sorata* (25,250 ft.). A lateral branch, called *Cochabamba*, runs E., and forms, to a certain extent, the watershed between the Amazon and La Plata. N. of the plateau a vast assemblage of mountains exists, covering an area three times as large as Switzerland, out of which a second separation of the range takes place, enclosing a second table-land, 11,000 feet high, terminating in the group of Pasco, N. of which the Andes separate into three distinct ranges, which re-unite at the group of Loxa.

In *Colombia*, the Loxa group goes N. in two chains, which enclose the valley of Quençá, and on re-uniting form the plateau of Assuay, 15,500 feet high, N. of which two ranges are again discernible; the E. containing *Chimborazo* (21,424 ft.) and *Yliniza* (17,386 ft.), and the W. *Cotopaxi* (18,875 ft.). A little S. of the Quito table-land they re-unite, and bordering this plateau are *Antisana* (19,126 ft.) and *Cayambe* to the E., *Pinchincha* (15,924 ft.) and *Cotochache* (16,428 ft.) to the W., with many other lofty peaks, all large volcanoes. Further N. they bend more E., and in New Granada run in three chains, some peaks rising above the snow line.

* This table-land, which contains Lake Titicaca, is 12,700 feet above sea-level, and has an area about as large as Ireland.

No part of the world is so subject to earthquakes as the Andes. In many places accurate surveys of the range have not yet been taken. The mineral wealth of the Andes is very important.

The **Rivers** are the *Magdalena* in Colombia ; the *Orinoco* in Venezuela ; the *Essequibo* in Guiana ; the *Amazon* and *San Francisco* in Brazil ; the *La Plata* and *Negro* in La Plata.

The **Magdalena** rises in a mountain lake in the Andes, and after a course of 900 miles, falls into the Caribbean Sea. It is navigable for small vessels to Honda, 540 miles from its mouth. The *Cauca* is its chief tributary.

The **Orinoco** rises in the Parime mountains, which divide Venezuela from Brazil, and after a short course through a mountainous district, emerges into the great llanos or level plains. After a course of 1,800 miles it discharges by several mouths into the Atlantic. Like most large rivers whose lower course is level, it forms a delta ; and opposite the mouth of the river is the semi-volcanic island of Trinidad. The course of the Orinoco is slow and sluggish, and so level is the basin of this river that a wind contrary to the main stream, or a rise in the Orinoco, reverses the course of some of the tributary streams. This river, during the rainy season, overflows its banks and inundates the surrounding country. The cattle which roam in countless herds over the plains are, during this season, driven to the heights for shelter. After the rainy season the inundation subsides, the river resumes its original course, and rich vegetation springs up, quickened into maturity by the powerful heat of the tropics. The river abounds in alligators, and in the small tributary streams are gymnoti or electrical eels, which have the wonderful power of conveying an electric shock to animals almost sufficient to cause death. The Orinoco is 25 miles wide at the mouth, and conveys an immense body of water to the ocean. Its delta is nicely wooded.

The **Amazon**, the largest river in the world, rises amid the snow and glaciers of the Andes, and after receiving the tributary waters, which drain a million and a-half square miles, rolls its vast volume into the Atlantic 4,000 miles from its source. Issuing a considerable river from the icy and majestic Andes, it flows for a long distance under the shadow of those lofty peaks capped with eternal snow. Its upper course is singularly grand and impressive : through mountain gorges of prodigious depth and surpassing beauty it dashes in wild fury. Nothing breaks the stillness save the echoes of its falls reverberating along the craggy cliffs, until they are lost amid the eternal solitudes. It winds through the immense savannahs or silvas

of South America, collecting waters at every step, and all unite to swell the mighty volume. The chief tributaries are the *Rio Negro* on the N., the *Madeira* and *Tapajos* on the S. These rivers, in any of the other continents, would not be tributaries, but vast main arteries, penetrating leagues into the interior, draining large tracts of country, and having distinct physical features of their own. But here they are merely the units of a great system, showing the vastness of the Creator's works in conception and execution. After its junction with the *Rio Negro* it continues its lazy flow for a distance of 315 leagues before reaching the sea. Its course is now through primeval forests of almost endless extent, where the stillness of nature reigns, adorned by every species of vegetation, from the tiny plant to the colossal tree. The breadth of the river in the plains is from two to three miles, which increases towards its mouth, where it reaches the extent of fifty miles. It flows into the sea in a vast estuary, its current being felt in the Atlantic 300 miles from the land. A great struggle ensues daily at the mouth between the river and the tide. A high ridge of surf and foam is formed by the opposing waters, and even the islands in the neighbourhood seem shaken by the collision; fishermen, boatmen, and alligators withdraw trembling from the shock. At spring-tides these collisions are still more boisterous; the waves run mountains high, the surf boils in angry foam, and large rocks are cast up on the beach, torn from the surrounding coast by the force of the sea; and the awful roar warns the mariner that his frail bark cannot be trusted in proximity to such collisions of nature. The island of *Joannes* and some small ones are situated at the mouth of the river. The Amazon is navigable to nearly the base of the Andes; the *Xingu* flows into its estuary.

The *La Plata* is one of the most magnificent of rivers. It is formed by the united waters of the *Paraguay*, *Parana*, and *Uruguay*, which, collectively, are navigable for several thousands of miles. These three rivers rise in the mountain ranges of Brazil. The *Paraguay* is the longest of the three, and in its lower course, at periods, inundates the country, forming the lake or swamp *Xarayes*. The largest affluents of the *Paraguay* are the *Pilcomayo* and *Vermejo*. After a course of 1,000 miles, the *Parana* joins the *Paraguay* at *Corrientes*. The river is now known as the *Parana*, and its breadth varies from one and a-half to two miles. This increases, until at last it expands into a noble estuary, and at *Buenos Ayres* its breadth equals 29 miles. Opposite *Buenos Ayres* it receives the *Uruguay*, a large tributary, 800 miles in length. These three rivers now form a great estuary 130 miles broad, on which ships may sail without seeing land. The basin which the *La Plata* drains is above 1,000,000 square miles in

extent, and the volume of water it conveys to the sea is only surpassed by that of the Amazon.

The chief ports are Buenos Ayres and Monte Video.

BRAZIL.

The empire of Brazil* is bounded on the N. by the Atlantic, Guiana, and Venezuela, on the W. by Equador, Peru, Bolivia, Paraguay, and La Plata, on the S. by Uruguay and La Plata, and on the E. by the Atlantic.

It extends from 5° 10' N. latitude, to 34° 32' S.—about 2,414 miles—and between 34° 47' and 72° W. longitude. Its Atlantic coast-line is about 3,700 miles. It contains 20 provinces—16 along the coast, and 4 inland. No country in the world possesses so many large rivers. Its forests, consisting of beautiful and valuable woods, cover large districts. The surface rises towards the interior by gentle gradations to 4,000 or 5,000 feet above sea-level, and the valleys produce sugar, coffee, etc. The minerals are also valuable, and include gold, diamonds, silver, and iron.

Rio de Janeiro (250,000), “the city of palaces,” is the largest and most commercial town in South America. It is usually called *Rio*, and is situated on the W. shore of a spacious bay, entered by a narrow strait, and completely land-locked. Its streets and squares are well laid out, and its cathedral, college, exchange, and library are excellent buildings, in the European style. Its export trade includes coffee, sugar, rum, hides, timber, rice, tapioco, and tobacco.†

Bahia or San Salvador (120,000) is the next most important port. It is divided into two parts—the upper, inhabited by the wealthy, and the lower, skirting the shore for about four miles. Pernambuco (50,000) includes *Recifé*, or the “Reef,” the chief seat of foreign commerce; *St. Antonio*, on an island, with many good shops; and *Boa Vista*, inland. This town exports cotton, hides, and sugar. Maranhao (36,000) is on an island off the N. coast. It is a pleasant well-

* It was discovered by the Portuguese in 1500, to whom it belonged until 1808, when the royal family took refuge in it, having been driven from their own country by the French, founded the kingdom of Brazil, which, in 1822, became an independent empire under a Portuguese prince. Its inhabitants include 1,400,000 slaves. There are also 500,000 Indians.

† *Rio de Janeiro* means “river of January:” *bahia*—bay, *rica*—rich, *villa*—a town, etc.

built town, with active trade. Its rainfall is said to be 280 inches. Alcantara, to the W., on the mainland, is a growing port. Ouro Preto or Villa Rica (15,000) is 200 miles N.W. from the capital. There are gold mines in the neighbourhood. Mariana (6,000), in the interior, is on a plateau 3,000 feet high. Parahyba (16,000), on the E. coast, has a cathedral, several churches, and a college. It has a military arsenal.

COLOMBIA, OR NEW GRANADA.

New Granada lies in the N.W. of South America. It embraces the isthmus of Darien, and was one of the oldest Spanish colonies. Near the Pacific the country is mountainous, but in the W. it consists of plains. Several peaks of the Andes rise above 18,000 feet. Between two of the mountain chains is the valley of the *Magdalena*. The plains on the E. exhibit, in the rainy season, luxuriant pastures, but in the dry, resemble parched deserts. On these plains immense herds of horses, mules, and horned cattle are reared; and from the forests, dye-woods and bark are obtained. Emeralds, iron, copper, tin, lead, and sulphur, are the chief mineral treasures; and coffee, cocoa, sugar, tobacco, and rice, the chief crops.

Santa Fe de Bogota (45,000), on a plateau of the Andes, is nearly 9,000 feet above sea-level. It has a university and many fine churches. The climate is almost a perpetual spring.

Panama (10,000), the terminus of the railway across the isthmus, is a well built city, on a good harbour. **Aspinwall** is at the other end of the railway. **Cartagena** or **Carthagena** (16,000) is the chief naval arsenal of the state. In 1741 it was attacked by the British. **Santa Marta** (10,000) is a declining town on the coast. **Tunja** (10,000), once the capital of an Indian state, has some coarse woollen manufactures. **Popayan** (20,000) is a large town with a delightful climate. Here, in 1819, the Spaniards were defeated by Bolivar.

PERU.

Peru lies on the Pacific, S. of Ecuador, and N. of Bolivia, extending almost 1,500 miles from N. to S., and

about 570 from E. to W. By the Andes the surface is divided into an arid belt, about 50 miles broad, between the mountain and the ocean; a lofty plateau, 12,000 feet high, containing lakes and morasses, but beautiful scenery at lower levels; and extensive plains on the E., watered by streams which join the Amazon. The latter is fertile. In the mountain region are some of the richest silver mines in the world; lead is also found.

The *Chinca Isles* are very valuable on account of their guano.

Lima (160,000) is a rapidly improving town, in a pleasant valley, partly surrounded by a wall and entered by gates. Though the streets are narrow, there are many fine squares, and good public buildings. It has the oldest university in America, with a library of 20,000 volumes. The inhabitants are intelligent and gay, but much given to gambling.

Callao (20,000), its port, has extensive trade in bark, skins, silver and copper ores, wool, soap, and sugar. Pasco (16,000) is about 140 miles N.E., and 10,800 feet above sea level. It is the capital of the mining district. Puno (20,000), on L. Titicaca, is the highest town in Peru. It is 12,870 feet above sea level. Cuzco (44,000) was the capital of the ancient Incas.* It is 11,380 feet above sea level; and has manufactures of embroidery, cotton, and woollens. Arequipa (30,000) is very subject to earthquakes.† Truxillo and Arica are important ports.

CHILI or CHILE.

This country consists of a long narrow territory, enclosed from the rest of S. America by the Andes. Its climate is salubrious, and the soil in general fertile. Earthquakes are frequent; mineral wealth is unbounded—copper and silver

* Founded, according to tradition, in 1043. When Pizarro took it, in 1534, he was surprised at its magnificence. It contained a richly adorned temple of the sun; and showed many traces of civilization.

† The following relates to the dreadful earthquake of 1868:—"Iquique, noted for its salt works, was, by this earthquake, made one mass of ruins. Arequipa, the third city, was totally ruined, 10,000 people having been killed; Puno and Cerro de Pasco, the former with 20,000 inhabitants, both stood on silver mines, which, opening into wide caves, literally swallowed these cities. Cuzco has not a standing house, and most of its people were killed."

being the most important. In the centre grain is largely grown, but in the N., where rain seldom falls, the surface is sterile. In the S. timber is also an important product. A colony on the straits of Magellan, Punta Arenas, with about 170 inhabitants, belongs to Chili.

Juan Fernandez is a dependency 300 miles distant. Lobsters are in immense numbers on the island. Our readers will recollect the History of Alexander Selkirk (Robinson Crusoe), who was cast on this island.

Santiago (80,000) is on a delightful plain, studded with acacia trees, at the base of the mountains. A fearful catastrophe occurred in its cathedral on the 8th December, 1863—the sacred edifice was burnt down in fifteen minutes, and 2,000 of the congregation perished.

Valparaiso (75,000), "The valley of Paradise," is connected with the capital (of which it is the port) by a railway. It is a flourishing seat of trade. A railway runs to *San Felipe*, the capital of a productive province. On the S. coast are *Concepcion* and *Valdivia*, chiefly remarkable for earthquakes. *Caldera* is a town of modern growth. It is a stopping place of steamers, and has a good railway station. *Copiapó*, in the N., is in the centre of a mining district; and 50 miles S. is *Chanarcillo*, a silver mining town, in the hands of a British company. A railway connects it with *Caldera*, one of the highest in the world, being 4,470 feet high.

PATAGONIA.

Patagonia includes the whole S. part of America. It is a barren region (with many lakes and morasses), bereft of agriculture and civilization. The Andes here are densely clothed with timber, and rise from 4,000 to 8,000 feet. Several Indian tribes, tall and agile, rove about. They are the only inhabitants in the country, the sovereignty of which is claimed both by Chili and La Plata. The islands on the S. are exposed to great tempests. Seals and birds are plentiful among them. *Terra del Fuégo*, "the land of fire," is mountainous and well wooded. The inhospitable climate renders settlements for colonization almost impossible. At *Port San Julian* and *Bahia Nueva* are small settlements.

BOLIVIA.*

Bolivia has a limited coast-line between Peru and Chili. More than one-half of the population are Indians. The Andes occupy much of the country, particularly in the S., while in the N.E. are forest-clad plains, watered by the affluents of the Amazon and La Plata. Much of this country is still imperfectly known.

Chuquisaca (24,000) has a handsome cathedral. It stands on a plateau which forms the watershed between the Madeira and Paraguay rivers.

La Paz (40,000), on the plateau S. of L. Titicaca, is a commercial seat of trade with Peru. **Cochabamba** (40,000) is another important town. **Potosi** (23,000) is in the silver mining district, and of less importance than formerly. **Santa Cruz** (10,000); **Tarija** (10,000). **Oruro Beni** and **Cobija**, the only ports, are next in importance.

VENEZUELA.†

This republic extends from New Granada along the coast of the Carribean Sea to Guiana, a distance of 1,600 miles, with the empire of Brazil on the S. and Colombia on the W. The Orinoco, which traverses it from west to east, is the principal river, and the Parime mountains run in the same direction on the borders of Brazil. The Andes enter it on the north-west, and are continued in a coast range of much less elevation. Lake Maracaybo, with a bar at its entrance, has an area of 7,800 square miles. About three-fourths of the surface are covered with *Llanos*, on which millions of cattle are bred—the staple wealth of the country. The forests yield valuable woods; and coffee, maize, cotton, sugar, and indigo are exported.

* It was formerly called Upper Peru; but on becoming a republic, in 1825, it assumed its present name in honour of General Bolivar, who so greatly contributed to the independence of the country.

† When the first European explorers entered the gulf N. of L. Maracaybo, they perceived the inhabitants living in pile dwellings, which reminding them of Venice, they called the country Venezuela, "the little Venice."

472 LA PLATA, OR ARGENTINE REPUBLIC—PARAGUAY.

Caracas (50,000) is about sixteen miles from the N. coast, with *La Guayra* as its port.

Maracaybo (20,000), on a lake of the same name, has active commerce. **Valencia** (16,000) has also important trade. **Cumano** (7,000) is the oldest Spanish settlement. **Barcelona** (10,000) is extremely unhealthy. **Cabello** is a good port. **Varinas** produces tobacco. **Ciudad Bolivar** is in the valley of the Orinoco.

LA PLATA, or the ARGENTINE REPUBLIC.

This country is bounded by the Andes, Uruguay, and the Atlantic, with Patagonia on the S. The coast-line, though long, has few harbours. The surface of the country descends from the Andes on the W. ; vast plains, including three-fourths of the country, most of which are called pampas, which are devoid of trees, but supporting on their luxuriant grass immense numbers of cattle and sheep, give good grain crops. The chief exports are hides, horns, and bones.

Buenos Ayres (180,000), the chief city, is a good commercial town on the S. of the estuary of the La Plata. It is the chief place of export for the republic, and of intercourse with Europe. It was taken by the British in 1806, and attacked by them in the following year.

Rosario (30,000), on the Parana, has great trade with the interior of the country. **Santa Fe** (16,000), also on the Parana, has considerable trade. **Mendoza** (20,000) is on the road to the Andes. **Tucuman** (10,000) is the capital of the most fertile province. **Santiago**, **San Luis**, and **Jujuy**, are also worthy of note. Some railways have lately been opened.

PARAGUAY.

This is an inland country, lying between the Paraguay and Parana rivers, with the rivers Blanco and Monice on the N. A range of hills runs from N. to S. It is the only inland state in South America. The surface is covered with forests. The climate is hot ; and the products are Paraguay tea (from the leaf of an evergreen), sugar, coffee, sarsaparilla, cotton, and tobacco. The Indians are a majority of the population.

Asuncion (10,000), on the left bank of the Paraguay, has a cathedral and some trade.

Villarica, in the interior, has trade in dye-woods.

ECUADOR.

Ecuador, so named from its position under the equator, has the volcanic *Galapagos Isles** as a dependency, 600 miles out in the Pacific. The Andes run N. and S. in two parallel ranges, and rising into many magnificent volcanoes. The desert plains between these high mountains are named *paramos*. The climate varies very much. The only river is the Guayaquil, navigable 40 miles from its mouth; excellent barks are exported.

Quito (75,000), almost under the equator, is 9,600 feet above sea-level, and enjoys perpetual spring.

Guayaquil (20,000), lying low on the coast, is the principal port, Guena (20,000), in the S., is a good town. Loxa has trade with Peru.

URUGUAY.

Uruguay or Banda Oriental occupies the N. bank of the La Plata, between the Atlantic and the river of the same name. The interior consists of undulating table-lands, well adapted for pasturage; and cattle, horses, and sheep constitute the chief wealth. In the low grounds, near the sea, rice, sugar, cotton, and fruits, are produced.

Monte Video (40,000) is a thriving town on the La Plata estuary. In the summer the inhabitants suffer from extreme heat and scarcity of water. Storms are frequent. The exports consist of hides, wool, tallow, jerked beef, bones, guano, and seal skins.

La Colonia, opposite Buenos Ayres, was taken by the British and French fleets, 1845.

* So named from the large land tortoises which abound here, the word meaning "islands of land-turtles." They consist of ten large, and several small isles, visited by whalers, but without any settled residents.

GUIANA.

Guiana lies N. of Brazil, and extends from 1° to $9^{\circ} 20'$ N. latitude—about 560 miles; and from $50^{\circ} 40'$ to 61° W. longitude—about 710 miles. It is divided into *British*, *Dutch*, and *French*. It is low and level towards the sea, but rises in the interior, by a succession of table-lands, to the mountain range, which separates it from Brazil. The heat, though tropical, is not so extreme as might be expected, being modified by the trade-winds, sea-breezes, and rainy season. There are two rainy seasons near the coast, but only one in the interior.

BRITISH GUIANA.*

British Guiana, in the W., is divided into *Berbice*, *Demerara*, and *Essequibo*. The cultivation is confined to the coast, sugar and rum being the chief articles produced. Timber is largely exported.

Georgetown (25,000) is in a low and unhealthy position at the mouth of the Demerara river. It is built in the Dutch fashion, intersected by many canals: about four-fifths of the inhabitants are people of colour. New Amsterdam (3,000), at the mouth of the Berbice, is a thriving town.

DUTCH GUIANA or SURINAM.

This territory has many Jews among its population. It produces sugar, coffee, cotton, and indigo.

Paramaribo (20,000), on the Surinam, is well built, with good streets, having avenues of orange, lemon, and tamarind trees along their sides. Most of the inhabitants are blacks and coolies.

FRENCH GUIANA.

French Guiana, or Cayenne, lying further E., partakes of similar productions with similar physical features.

* This territory was settled by the Dutch, 1580. It was taken in 1796 by General Whyte. At the peace of Amiens, 1802, it was restored to the Dutch, but in 1803 again taken by the British, with whom it was left at the peace of 1814.

Cayenne (5,000), on a small isle, in the mouth of a river of the same name, is noted for its pungent pepper. It also exports cloves and maize.

The **Falkland Islands** are in the South Atlantic, about 300 miles N. E. from Terra del Fuego. They are healthy, though high winds prevail; grain ripens in sheltered nooks only; potatoes, turnips, &c., are excellent; trout abound in the rivers, and other fish in the harbours: an industrious well-to-do colony. **Stanley** is the capital.

OCEANIA.

Oceania, a name introduced by French geographers, includes the following:—**Malaysia**, or the *Eastern* or *Indian* archipelago; **Australasia**, **Micronesia**, and **Polynesia**, or the South Sea Islands.

MALAYSIA.

Malaysia, called the Indian or Asiatic archipelago, includes the *Sunda* isles, the *Borneo* group, *Celebes*, the *Moluccas*, the *Sooloo* isles, and the *Philippines*.

The **Sunda** Isles include *Sumatra*, *Java*, *Sumbawa*, *Timor*, *Sandalwood*, etc.

Sumatra, the most western of the Sunda islands, lies S. of Malacca, is 1,040 miles long, and 266 broad, with an area of 168,000 sqr. miles, and a population of seven millions. The *Barisan* mountains, which have lofty volcanic cones rising from six to ten thousand feet, run the whole length of the island, and parallel to them there is another chain. Its rivers wind slowly through alluvial plains covered with dense jungle, towards the E. There are several lakes, the largest being Sing Karrah or Semaway. Large marshes abound, which give rise to fevers; but the climate is pretty good. Fruits are abundant. Animals and productions are the same as those of Borneo. The independent portion of the island, *Acheen*, produces much pepper. Rice-culture and coffee-growing are the chief industries.

Padang (10,000) is a Dutch settlement, with active trade. **Ben-coolen** (12,000) is another settlement, inhabited by a mixed race. **Palembang** (250,000), formerly a native kingdom, is now an important Dutch settlement.

Java almost all belongs to Holland. It is 628 miles long, and from 40 to 130 broad, with an area of about 50,000 square miles, and a population of ten millions. The country near the S. coast is hilly, and several volcanic mountain peaks rise in the interior to 10,000 or 11,000 feet in height. The coast on the N. is fringed with small islands. The year is divided into the wet and dry seasons. The soil is rich, and rice, wheat, arrow-root, sugar, ginger, cotton, and coffee are raised. The upas tree flourishes in the woods.

Batavia (150,000) is an important commercial city, surrounded by groves of tropical trees. Its inhabitants include traders from almost every country in the world. No town in the East Indies has so extensive commerce. Cheribon (11,000) has trade in indigo, coffee, teak wood, etc. Samarang (22,000) is a fortified seaport, in which are many Chinese. It exports pepper, rice, and coffee. Surabaya or Sourabaya (80,000) has flourishing trade, a naval arsenal, and a cannon foundry. In the interior are several native states under Dutch protection.

Sumbawa is an island deeply indented by bays and creeks. Its native states acknowledge the supremacy of the Dutch. On the N. coast Bima has a good harbour.

Timor has a delightful climate, and is well wooded.

Sandalwood has a fertile interior. It is 100 miles long and 30 broad.

The Borneo group include *Borneo*, *Labuan*, *Natuna*, and *Anambas*.

Borneo, nearly equally divided by the equator, is about 800 miles long and 700 broad, and has an area of 300,000 square miles, with a population of 2½ millions. Its coasts are low and marshy; its interior is unexplored. Two mountain chains run nearly parallel from N.E. to S.W. Several large rivers water the N. and W. The river Batang-lopah falls into the Chinese Sea; the Borneo and the Morotaba or Sarawak in the north; and Pembuan and Mendawa on the south. The only known lake is the Kini Balu, near the mountain (the highest in Borneo, 13,698 feet) of the same name. The climate on the low grounds is unhealthy; vegetation luxuriant—including teak, gutta-percha tree, ebony, dye-woods, nutmeg, cinnamon, rice, grain, ginger, cotton, and bamboo. Its animals are numerous—tigers, elephants, deer, apes, etc.: birds include eagles, parrots, peacocks, swallows. Excellent coal is found; also gold, iron, tin, zinc, and diamonds. The

inhabitants, consisting of several races, are generally cruel and wild, and subsist by hunting and fishing. A great number of Chinese are in Borneo, and form an extensive colony. Most of Borneo is subject to the Dutch.

The British have Sarawak, in which valuable silver mines have been lately discovered, and the Isle of Labuan.

Labuan was ceded to Britain by the Sultan of Borneo, 1847. It is chiefly noted for its excellent coal mines. It is about six miles distant from the mainland, 27 miles in circuit, and of a triangular shape, with a population of 1,250, of whom 40 are Europeans. It is a naval station.

Banca is a small island, well known on account of its tin mines.

Natuna Isles are a small group, the largest of which is Great Natuna. The *Anambas* are a well wooded group, 150 miles N.E. from Singapore.

Celebes is about 700 miles long, with an average breadth of 150 miles, and a population of two millions. The climate is healthy. The chief products are maize, rice, tobacco, yams, sago, and sugar. The surface is hilly, rising in Mount *Lampoo Batang* to 7,000 feet. Many forests and grassy plains, with rivers and lakes, are numerous. From one of its trees the famous Macassar oil is obtained. Diamonds, gold, iron, and salt, are found. The Dutch exercise supremacy over the island.

The Moluccas lie between Celebes and New Guinea. They consist of *Gilolo*, *Ceram*, *Amboyna*, *Booro*, *Banda*, and many others.

They have a mountainous surface, some peaks rising to 8,000 feet, a fertile soil, products including nutmegs, cloves, spices, fruits, and woods. *Gilolo* is mountainous and well wooded. *Ceram* is also mountainous, with a fertile soil, with immense forests of sago-palm, which yield abundance of starch. *Amboyna* produces abundance of cloves—nearly one million pounds annually. The clove-tree rises to 40 feet high, and resembles a pear-tree. *Booro* has great quantities of rice and fruit. It is very mountainous. The *Banda* or *Nutmeg Isles*, of volcanic origin, produce abundance of spices.

The Sooloo Isles are under a Sultan. They consist of 60 isles: the climate is hot; the products are rice, cinnamon, and fruits. The population is about 200,000. The *Sanguir* group consists of 50 islets.

The **Philippine** Isles belong to Spain. They consist of *Luzon, Mindanao, Palawan, Samar, Mindoro*, etc.; population six millions.

This is a group of 1,200 isles and islets, with a rugged surface, nice scenery, and luxuriant vegetation. Several volcanoes exist. The products are rice, cotton, coffee, tobacco, cocoa, sago, cinnamon, with mineral wealth, consisting of coal, gold-dust, pepper, rattans, amber, marble, brimstone, etc.

Manilla (150,000), on the island of Luzon, is the capital. It has extensive and increasing trade with all the great commercial countries, exporting sugar, cigars, indigo, rice, rum, etc. **Selangan**, on Mindanao, is the residence of a sultan.

AUSTRALASIA.

Australasia embraces *Australia, Tasmania, New Guinea, New Zealand*, with several smaller islands.

AUSTRALIA.*

Australia, though strictly speaking an island, yet from its vast magnitude, containing an area of $2\frac{3}{4}$ millions of square miles, is usually described under the term "Island Continent." It lies between the parallels of $10^{\circ} 45'$ and $39^{\circ} 5'$ South latitude; and the meridians of $112^{\circ} 20'$ and $153^{\circ} 30'$ East longitude. Its length from Cape York in the N. to Wilson Promontory in the S. is 1,960 miles; and its breadth between Cape Byron and Steep Point about 2,400 miles. Its coast line is about 8,000 miles in length.

The seasons in Australia are the opposite to ours: the winter consists of June, July, and August; the summer, of December, January, and February. The natural phenomena are strikingly different from those to which we are accustomed: their N. wind is hot, their S. cold.

* Several Dutch and other navigators explored portions of the coast of this vast island before the arrival of Captain Cooke (1770), who assigned the names Botany Bay (from the exuberance of the flowers in the neighbourhood), New South Wales, Moreton Bay, etc. In 1800 Grant, and in 1802, Flinders, surveyed most of the remaining coast. Of the interior very little is yet accurately known. Burke and Wills crossed from Melbourne to the Gulf of Carpentaria, 1861, and McKinley, 1862.

The leaves of the trees, instead of extending horizontally, are vertical; the native flowers are without odour; the bees without sting; and birds without song. The owl hoots by day; the cuckoo cries by night; the swans are black, the eagles white, the crabs blue, and the trees shed their bark instead of their leaves.

Gulfs, Bays, Straits, etc.—On the E. *Jervis, Botany, Trial, Shoal, Moreton, Harvey, Keppel, Halifax, Trinity*, and *Princess Charlotte* bays, with several other inlets. On the N., the *Gulf of Carpentaria* (which penetrates 400 miles between York peninsula and North Australia), *Melville, Arnhem*, and *Castlereagh* bays, *Clarence* and *Dundas* straits, with *Van Diemen* gulf between Melville island and the mainland, and *Apsley* strait between the same island and Bathurst. On the W., *Cambridge, Admiralty*, and *Exmouth* gulfs; *Collier, Shark*, and *Geographe* bays. On the S., *Spencer* gulf, *Blackstairs Passage*, and *Port Philip*.

Capes.*—On the E., *Howe, Byron, Sandy, Tribulation*, and *Melville*; on the N., *York, Arnhem, Wilberforce*, and *Van Diemen*; on the N.W., *Leveque* and *N.W.* capes. On the W., *Cuvier* and *Leeuwin*; on the S., *Chatham, Pasley, Bauer, Catastrophe, Spencer, Nelson, Otway*, and *Wilson*.

Mountains.—The most important are the following:—the *Grampians, Pyrenees*, the *Australian Alps, Wanderer Range, Blue Mountains, Liverpool Range, Arbuthnot*, and *Nundawar* ranges in Victoria and New South Wales; *Mitchell, King*, and *Nicholson* mounts, with *Denham, Peak, Clarke, Johnston*, and *Fletcher* ranges, in Queensland. *Flinders, Gawler*, and *Stuart* ranges in S. Australia. *Victoria, Herschel, Darling*, and *Capricorn* ranges in West Australia. *Ellesmere* and *Sugarloaf* ranges in North Australia.

Lakes.—*Alexandrina, Torrens, Eyre, Frome, Gairdner*, and *Gregory*, in New South Wales; with *Austin, Moore*, and *Lefroy*, in West Australia.

* The *Great Barrier Reef* extends on the N.E. coast, to which it runs parallel through 15° from opposite Keppel Bay to opposite Cape York and Torres Strait.

Rivers.—The rivers of Australia are few, and most of those which are as yet known are short, shallow, and useless for navigation, having their sources chiefly in coast chains. The only one which deserves particular mention is the *Murray*, having its head waters in the mountains of the eastern coast mountain chain, and flowing transversely across the continent. The drainage of this continent is very meagre, and the water supply insufficient, although this is, in some measure, counteracted by pools, ponds, and small lakes, some of them, however, salt, others brackish, and a few fresh. The scarcity of water is often a source of uneasiness and anxiety to stock-holders, and will tend to impede the rapid advancement of the grazing and agricultural industries.

The *Murray*, with its tributaries, the *Darling*, the *Lachlan*, and the *Murrumbidgee*, drains the most extensive and best known district. It rises in the Australian Alps, forms the boundary between Victoria and New South Wales, enters South Australia, and after a very winding course, enters Encounter Bay. The *Darling* is formed of several streams from the mountains in the S.E. of Queensland, and flows through New South Wales for hundreds of miles in a winding course. The *Murrumbidgee* runs nearly parallel to the *Lachlan*, which it joins about 150 miles before their united waters flow into the *Murray*.

The following are the divisions of Australia :—

Colony.	Area.	Population.	Capitals.
New South Wales	- 300,437	502,000	Sydney, on Port Jackson.
West Australia	- 80,000	20,000	Perth, on the Swan river.
South Australia*	- 906,784	186,000	Adelaide, on St. Vincent gulf.
Victoria	- 86,408	729,000	Melbourne, on the Yarra Yarra.
Queensland	- 560,000	115,000	Brisbane, on the Brisbane river.
Tasmania	- 27,000	102,000	Hobart Town, on the Derwent.

Total population, with 70,000 natives, 1,725,000.

New South Wales lies in the S.E. The colony originated in a penal settlement made here in 1788. It is

* Including North Australia, Alexandra, and Stuart Land.

rich in agricultural produce and all kinds of stock, particularly sheep. Large forests, interspersed with brushwood thickets, are in the interior. The highlands are penetrated by deep valleys. Rain falls in torrents, but at very irregular intervals; and, in the dry season, when the brush-wood catches fire, the flames often spread with dangerous rapidity.

Sydney (100,000), on the shore of one of the finest harbours in the world, is an elegant commercial town, with well-paved streets. George-street is a beautiful thoroughfare, extending two miles. This city has a university and many good schools. Its manufactures are important, its climate delightful, and trade fast increasing.

Paramatta (5,000), 15 miles N.W., is the oldest town in Australia. It has an observatory, is a railway centre, and still retains the mint. Near it are salt-works, and copper-smelting furnaces. **Maitland** and **Newcastle**, both on the Hunter river, have coal-mines in their vicinity. **Bathurst** is the chief town in the gold region of this colony. **Liverpool** is an improving town.

West Australia, formerly called the Swan River Settlement, is of much less importance than any of the other divisions, although largest in area. The fact of the existence of a penal settlement has contributed to prevent immigration. It has some valuable timber of most extraordinary durability. Copper and lead ores are plentiful.

Perth, on the N. bank of the Swan river, is a small town. **Free-mantle** is its port, and contains the penal settlement. **Albany** has a good harbour; the mail steamers touch at it.

South Australia contains a large district of lakes, sandy soil, saline mudlakes, and shrubbery. It has two great inlets—one, the gulf of St. Vincent, a deep and protected harbour. At its mouth is Kangaroo island, so named from the number of these animals found on it. Spencer gulf is the second opening. The surface, though not mountainous, is gently undulating. Timber is plentiful; water is scarce in the summer; the Murray is the only river of importance. For about nine months in the year the climate is very mild. The summer heat is the only unpleasant time. Snow is unknown in this colony. Pasturage is the chief industry;

but wheat is largely grown. Wool is exported in immense quantities. Fruits are abundant, and grapes are now carefully cultivated. Copper, lead, and tin are found ; the first being the most important.

North Australia, with *Palmerston* as its capital, lies in the extreme N. of the island.

Adelaide (25,000) is a fine town, with large exports of wool and copper.

Port Adelaide (12,000), its port, has a good harbour.

Kapunda is a large town, with agricultural and mining industries. **Kadina** is a mining town.

Victoria,* one-fourth of whose inhabitants are engaged in mining, is nearly as large as Great Britain ; produces numbers of valuable diamonds ; has a climate resembling that of Southern Europe, frost being rare, and snow never falling except on the table-lands and mountains. Excellent crops of wheat, oats, barley, hops, and tobacco are raised, and the vineyards give an abundance of good wine.

Melbourne (125,000) is a large and flourishing city, situated eight miles from the mouth of the Yarra Yarra. The rapid growth of this town is best explained by stating it was in 1837 a mere collection of huts, and in 1846 had only 11,000 inhabitants. It has several fine parks and squares, and good public buildings. It is the life and centre of the trade of the colony. *St. Kilda* and *Brighton* are watering-places for its inhabitants. **Williamstown**, at the mouth of the river, is its port. **Geelong** (25,000) is on an inlet of Port Philip, forty miles from Melbourne. It has immense wool-stores. **Ballarat** (25,000) is an important town which rose near the gold-diggings.

Castlemaine and **Sandhurst** are both mining towns.

Queensland, which formerly belonged to N. S. Wales, became a separate colony in December, 1859. Its area is four times that of the United Kingdom ; and its productions include those of tropical and temperate climates. It is admirably adapted for cotton culture ; but sheep-farming is the prevailing industry. In many places gold, silver, cop-

* Of the population, 10 per cent. are receiving instruction ; 10 per cent. are engaged in trade ; and 10 per cent. are artisans and mechanics.

per, and coal mines are worked : timber is abundant ; horses are so numerous, that a “ squatter ” has several hundreds ; and cattle are so plentiful, that they are only valued for their hides and tallow. Sugar is largely produced.

Brisbane is in an important district, both agricultural, mining, and pastoral.

Ipswich is higher up the Brisbane river ; and **Cleveland**, near its mouth, is the resort of fine turtles.

Tasmania, separated from the mainland by *Bass* strait, (140 miles wide) is about five-sixths the size of Scotland. It has a splendid climate, and produces immense quantities of the very best wool. Wheat and oats can be grown for several years without manuring. Timber and cabinet woods are also very valuable. Copper, coal, and iron are the chief minerals. The whale fishery is carried on by the inhabitants.

Hobart Town (25,000), the capital, is situated at the base of some finely wooded hills. It contains flour-mills, breweries, tanneries, etc., and extensive foreign trade.

Launceston (10,000), on the Tamar, has trade with Melbourne and Adelaide. **Port Dalrymple** and **Georgetown** are improving places.

Railways.—A railway connects Melbourne with Geelong and **Ballarat** ; and a N. line connects it with **Castlemaine**, **Sandhurst**, and **Meama** on the frontier of the province. **Sydney** is connected with **Picton**, **Penrith**, and **Windsor** by rail. A line runs from **Newcastle** on the coast through **Maitland** to **Biddell**. In **Tasmania** a railway is in progress connecting **Hobart Town** with **Launceston**, a distance of 125 miles.

New Guinea still belongs to the natives. It is a very large island, but very imperfectly known to Europeans. The chief productions are nutmegs, tortoise-shell, and edible birds' nests. Gold has been found ; and this island is the native place of the Bird of Paradise.

New Zealand* consists of three islands, extending from N. to S. in a kind of curve, the two northern being separated by Cook strait, a fine deep channel, 150 miles long and 50 broad; and the middle being separated from the southern by Foveaux strait.

North Island is about 500 miles long, varying in breadth from 5 to 300 miles, and containing 26 millions of acres. It contains several lakes—*Taupo*, in Auckland, being the largest, and *Wairarapa*, in the S., next in size. Several chains of mountains run from N. to S., the most important peaks being *Mount Egmont*, an extinct volcano (8,270 ft.), *Mount Tongarin* (6,200 ft.), *Ruapepu* (9,195 ft.), the highest peak in the island. The bays are *Plenty* and *Hawke*, with several smaller ones.

Middle Island has a length of 550 miles, with an average breadth of 110 miles, and contains 38 millions of acres. It has several fine lakes, *Wanaka*, *Hawea*, *Anan*, and *Wakatipu*. The Southern Alps run from N. to S., on which is Mount Cook (13,200 ft.); a little more S. *Earnslaw* (10,000 feet), and *Mount Franklin* in the N. (10,000 feet). The largest bays are *Tasman*, or *Blind* bay, and *Pegasus* bay.

Stewart Isle contains one million of acres. Its surface is hilly.

Climate and Productions.—The climate very much resembles that of the British Isles, with seasons the very opposite to ours, and more violent storms of wind and rain than we have in this country; but with the same crops and fruits. The mean annual temperature of the North Island is 57°, of the middle, 52°. The North Island yields splendid timber from its extensive forests.

Wellington is the capital of the entire colony.

* It was discovered by Captain Cooke, 1769 (but had been "sighted and named" by the Dutch navigator, Tasman, 1642), who held frequent interviews with the natives. In 1814, the missionaries first arrived, and soon after, some settlers from New Holland. In 1840 it was formed into a colony, and settlements purchased from the natives near Wellington and Nelson; and in 1846 the Scotch settlement of Otago was planted.

The bulk of the aboriginal population, from the mildness and salubrity of the climate and fertility of the soil, are found in the Northern Island, living in small villages by rough farming and fishing, the potato being their chief article of food. Their society is patriarchal, but the majority of the youthful inhabitants wear British clothing, and, in a great degree, conform to English habits. The *Maories*, as they are called, are an intelligent and warlike race, susceptible of great improvement in the arts of civilization.

Islands.	Provinces.	Chief Towns.
New Ulster, or North Island,	{ 1 Auckland, 2 New Taranaki, 3 Wellington, 4 Hawke Bay, 5 Nelson,	Auckland, on the Thames. New Plymouth, on W. coast. Wellington, on Port Nicholson Napier, on Hawke's Bay. Nelson, on Tasman Bay.
New Munster, or Middle Island,	{ 6 Canterbury, 7 Otago, 8 Marlborough,	Christ Church, near Pegasus B. Dunedin, on Port Otago. Bleinheim, near Cloudy Bay.
New Leinster, or Stewart Isle	{ 9 Southland*	Invercargill, on S. coast.

Minerals.—Coal is found in both islands ; gold, iron, and copper, near Auckland, and in other places. Tin, lead, marble, alum, and sulphur, are also found.

Fish are numerous in the seas and rivers ; but no reptiles exist.

The exports and imports exceed in value (1869) nine millions sterling—the former being gold, wool, barley, oats, wheat, and flax ; and the latter, manufactured goods.

The *population* in 1870 was—North Isle, 96,856 ; Middle Isle, 159,178, and Chatham Isles, 133 ; total, 256,167, together with the natives, who number about 38,000.

The three principal ports are :—*Auckland*, *Dunedin*, and *Lyttleton*. *Skortland*, the chief town on the Thames gold fields, was a waste a few years ago.

Rivers.—The rivers are, in North Island, *Waikato* and *Wairarapa* ; in Middle Island, *Dillon*, *Molyneux*, and *Waidu*.

The *Auckland* and *Norfolk* Isles.—See p. 218.

MICRONESIA.

Micronesia consists of several groups of small islands in the N. Pacific, extending from the equator to 28° N. latitude. These include the *Ladrone*, or *Marianne* isles, the *Caroline*, *Pelew*, *Bonin*, *Marshall*, and *Sandwich* isles.

The *Ladrones* consist of a cluster of seventeen isles, with a fertile soil, which yields cotton, sugar, and rice. They were discovered by

* Most of this province is on the mainland of Middle Island. It includes *Stewart* Isle on the south.

Magellan, 1521, and named *Ladrones* ("robbers") on account of the thievish propensities of the natives. The *Carolines* and *Pelew* groups are all of coral formation, except the *Yap* group, which is mountainous. The productions are similar to those of the *Ladrones*, and the inhabitants are said to be good sailors. *Bonin* is a group frequented by European whalers. *Marshall* consists of low coral islets. The *Sandwich Isles*, the largest of which is *Owhyhee*, are best known to Europeans. The climate is mild; surface rugged; productions tropical and valuable; and the domestic animals, including horses, cattle, goats, and swine, are numerous. In 1819 the king publicly embraced Christianity; and the natives, a docile race, have since made great advancement in civilization. *Honolulu*, the capital, is now a great place of call for ships. It was on *Owhyhee* that Captain Cooke was killed 1779. This island contains the mountains *Mowna Kea* (13,953 ft.) and *Mowna Lea* (13,760 ft.), once active volcanoes. The influence of the United States is paramount: many Americans reside here.

POLYNESIA.

Polynesia consists of innumerable islands, bearing great similarity in climate and productions, and inhabited by a race who, with the exception of a few converted to Christianity, are idolaters. All these islands, even those with high mountains, were once at the bottom of the sea. Many of them are of coral formation. Among the most important groups are the *Fiji*,* *Friendly* or *Tonga*, *Society*, *Low*, *Marquesas*, etc., etc.

The *Fiji* or *Feejee* Islands are well wooded, and some of them have mountains rising 4,000 feet above the sea level. The soil is productive, and climate agreeable; sugar, cocoa, tobacco, and bread-fruit being raised. The population is about 140,000, among whom are several Englishmen.

* The *Fiji Isles* have recently attracted much attention, and have been a subject of discussion in the British Parliament, in consequence of an imputation, widely spread, that, to a certain extent, slavery has been practised here—several of the natives having been enticed to work on the cotton fields of Queensland and not allowed to return. In retaliation many Europeans, including Bishop Patteson, were lately murdered on the isles, and the whole subject is at present undergoing investigation.

The *Friendly Isles** have a luxuriant vegetation. The population is about 20,000, one-fourth of whom have, of late years, become professing Christians.

The *Society Isles* are remarkable for magnificent scenery and rich products. The inhabitants are greatly improved since their intercourse with Europeans.

Tahiti, *Otaheita*, the largest island, has been justly named, "the gem of the Pacific." In the interior a mountain peak is 11,000 feet high. The French claim a kind of protectorate over these islands.

In the *Low*, or *Dangerous* archipelago, *Pitcairn's* isle is interesting as the refuge of the mutineers of the *Bounty*, 1789.

The *Marquesas* consist of 13 islands, mountainous and hilly in the interior. They produce sugar, cotton, bamboos, cocoa-nuts, etc. The people are all tall and comely. These isles belong to France.

* Though named by Captain Cook on account of the kindly disposition of the inhabitants, they have since turned out, notwithstanding their comely features and bravery, to be treacherous and vindictive.

NOTE.—The extreme climate of the ANTARCTIC REGIONS has prevented their exploration. Among the places visited are :—*Graham's Land*, *Louis Philippe Land*, *South Victoria*, *South Shetlands*, *South Orkneys*, and the *Balleny* isles.

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